MINISTÈRE DE L'AGRICULTURE

BULLETIN

DU

JARDIN BOTANIQUE DE L'ÉTAT

BRUXELLES

VOLUME XXVIII

MINISTERIE VAN LANDBOUW

BULLETIN

VAN DE

RIJKSPLANTENTUIN

BRUSSEL

DEEL XXVIII

BRUXELLES
1958

BRUSSEL
1958

TABLE DES MATIERES — INHOUD

FASCICULE 1 (31 mars 1958) | AFLEVERING 1 (31 maart 1958)

E. PETIT. — Les *Naucleeae (Rubiaceae)* du Congo Belge et du Ruanda-Urundi. — 2. *Mitragyna* et *Nauclea* 1

R. W. J. KEAY. — *Randia* and *Gardenia* in West Africa (pl. I-V) ... 15

L. HAUMAN. — Deux « *Dichapetalum* » nouveaux d'Afrique Centrale 73

P. VAN DER VEKEN. — Une remarquable espèce nouvelle de *Brachiaria* (*Gramineae*) (pl. VI) 77

P. VAN DER VEKEN. — Graminées nouvelles ou peu connues de l'Afrique Centrale II 83

SUPPLÉMENT | BIJVOEGSEL

G. CUFODONTIS. — Enumeratio Plantarum Aethiopiae Spermatophyta (*Sequentia*) 441-488

FASCICULE 2 (30 juin 1958) | AFLEVERING 2 (30 juni 1958)

L. HAUMAN. — Quelques Sapindacées du Congo belge 93

J. LÉONARD. — Notulae Systematicae XXIII. Notes sur diverses Euphorbiacées africaines des genres *Croton, Crotonogyne, Dalechampia, Grossera* et *Thecacoris* 111

D. P. YOUNG. — Le genre *Epipactis* en Belgique 123

Theodor MÜLLER. — Über die Flechtenflora des Kantons Malmedy 129

G. L. van EYNDHOVEN, Doz. Dr H.-H. HANDKE, Dr Morten LANGE and J. T. PALMER. — Interesting Belgian *Gasteromycetes*, with observations on the Development of *Trichaster Melanocephalus* CZERN. (pl. VII, fig. 1-2) 161

Dr André J. G. H. KOSTERMANS. — Le genre *Ravensara* SONN. (Lauracées) à Madagascar (fig. 3-14) 173

Gr. L. HENNEBERT. — Le *Botrytis globosa* RAABE sur *Allium Ursinum* en Belgique. Morphologie du Conidiophore (fig. 15-26) 193

FASCICULE 3 (30 septembre 1958) | AFLEVERING 3 (30 september 1958)

B. VERDCOURT. — Remarks on the classification of the *Rubiaceae* (pl. VIII-XVI) ... 209

R. W. J. KEAY. — Notes on *Rubiaceae* for the « Flora of West Tropical Africa » — II ... 291

L. LIBEN. — Esquisse d'une limite phytogéographique guinéo-zambézienne au Katanga occidental (fig. 27) ... 299

K. STOPP. — Über einige Kongolesische *Aeolanthus*-Arten (fig. 28-33) 307

FASCICULE 4 (31 décembre 1958) | AFLEVERING 4 (31 december 1958)

Simone et Georges MANGENOT. — Deuxième liste de nombres chromosomiques nouveaux chez diverses Dicotylédones et Monocotylédones d'Afrique occidentale ... 315

F. DEMARET. — Aperçu sur la flore et la végétation des forêts à *Hagenia abyssinica* (Bruce) Gmel du Ruwenzori occidental (fig. 34-35) ... 331

Aimée CAMUS. — Graminées hybrides de la flore française (genre *Bromus* excepté) ... 337

G. GILBERT. — *Erythroxylaceae, Rutaceae, Simaroubaceae* et *Meliaceae* congolanae novae ... 375

P. HEINEMANN. — Champignons récoltés au Congo belge par Madame M. Goossens-Fontana. — III. *Cantharellineae* (fig. 36-56) ... 385

F. DEMARET et M^me^ ANTUN-GUPFFERT. — Trois fougères nouvelles pour le Congo belge ... 439

J. LÉONARD. — Notulae systematicae XXIV. — Note sur les genres *Suregada* Roxb. ex Rottl. et *Gelonium* Roxb. ex Willd. (Euphorbiacées) ... 443

Nils HYLANDER. — The generic name *Disa* once again (Pl. XVII) ... 451

L. WATERKEYN et J.-L. DE SLOOVER. — *Botrychium matricariifolium* (Retz.) A. Braun, Ophioglossacée nouvelle pour la flore belge (fig. 57) ... 455

Supplément | Bijvoegsel

G. CUFODONTIS. — Enumeratio Plantarum Aethiopiae Spermatophyta (Sequentia) ... 489-532

MINISTÈRE DE L'AGRICULTURE

BULLETIN

DU

JARDIN BOTANIQUE DE L'ÉTAT

BRUXELLES

VOLUME XXVIII (fascicule 1)
Pages 1 — 92
SUPPLÉMENT
Pages 441 — 488

MINISTERIE VAN LANDBOUW

BULLETIN

VAN DE

RIJKSPLANTENTUIN

BRUSSEL

DEEL XXVIII (aflevering 1)
Bladzijden 1 — 92
BIJVOEGSEL
Bladzijden 441 — 488

N.C.I.
R.A.I.
M.A.I.

BRUXELLES
31 mars 1958

BRUSSEL
31 maart 1958

COMMONWEALTH MYCOLOGICAL
30 APR 1958

LES *NAUCLEEAE (RUBIACEAE)* DU CONGO BELGE ET DU RUANDA-URUNDI. — 2. *MITRAGYNA* ET *NAUCLEA*

PAR

E. PETIT.

Les espèces des genres *Mitragyna* et *Nauclea* sont des arbres ou des arbustes; plusieurs fournissent un bois apprécié. Il règne malheureusement une certaine confusion dans l'application des noms scientifiques. Nous avons essayé de définir les espèces congolaises par un choix judicieux des caractères et de leur donner la dénomination exacte.

Le matériel actuellement en herbier ne peut fournir toutes les données désirables; il serait intéressant de les compléter par des observations sur l'écologie, le port, l'écorce et le bois, le fruit frais, les plantules, etc...

Comme pour le genre *Uncaria* [1], les spécimens cités sont déposés au Jardin botanique de l'État à Bruxelles; des doubles de beaucoup de ces spécimens sont conservés dans les collections des stations de l'I.N.É.A.C. au Congo belge.

MITRAGYNA Korth., nom. cons.

Trois noms ont été en usage pour indiquer ce genre, notamment *Mamboga* Blanco [2] datant de 1837, *Mitragyna* Korth. [3] de

(1) Petit, E., *Bull. Jard. Bot. État Brux.*, XXVII, p. 441-448 (1957).
(2) Blanco, Fl. Filip., p. 140 (1837).
(3) Korth., Obs. Naucl. Ind., p. 19 (1839).

1839 et *Stephegyne* KORTH. (4) de 1842. *Mitragyna* est inscrit sur la liste des ' nomina conservanda ', primant ainsi le synonyme antérieur *Mambogo*. *Mitragyne*, donné par Korthals (4) comme synonyme de *Stephegyne*, n'est pas à considérer comme un nom différent de *Mitragyna*, mais probablement comme une graphie préférée par l'auteur comme correspondant mieux à l'origine grecque du mot.

Clef des espèces congolaises du genre *Mitragyna*.

A. Calice lobé, à 5 lobes triangulaires de 1,25-2 mm de long; feuilles ± apiculées au sommet et à nervure principale se terminant dans la pointe. . . . . 1. *M. rubrostipulata*.

B. Calice tronqué ou légèrement ondulé; feuilles arrondies au sommet et à nervure principale bifurquée vers le sommet (sauf chez les feuilles des rejets de souches ?) :

I. Inflorescences généralement à 1 ou 2 nœuds et à 3, 5 ou 7 capitules; calice tronqué, glabre; lobes de la corolle sans pointe. . 2. *M. stipulosa*.

II. Inflorescences généralement à 3-4 nœuds et à capitules nombreux; calice légèrement ondulé et cilié au bord; lobes de la corolle surmontés d'une pointe de ± 1/2 mm de long . . . . . 3. *M. ciliata*.

1. **Mitragyna rubrostipulata** (K. SCHUM.) HAV., Journ. Linn. Soc., Bot., XXXIII, p. 73 (1897).

Adina rubrostipulata K. SCHUM. in ENGL., Pflanzenw. O.-Afr., C., p. 378 (1895); LEBRUN, Ess. Forest. Congo Orient., p. 220, fig. 26 (1935).

Mitragyna rubrostipulacea HAV., loc. cit., err.

Mitragyna macrophylla AUCT. non HIERN; DE WILD., Pl. Bequaert., II, p. 213 (1923).

DISTRICT DU LAC ALBERT : Rona, nov. 1951 et janv. 1952, *Sperry* 251 et 371; Abok, alt. 900 m, 1929, *Scops* 111; Nioka, alt. ± 1800 m, 1934, *Jurion* 227 et sept. 1946, *Taton* 242; Nioka-Djugu, alt. 1800 m, août 1946, *Taton* 233; Djugu, oct. 1951, *Smeyers* 56; Bogoro-Mboga, juill. 1914, *Bequaert* 4994.

DISTRICT DES LACS ÉDOUARD ET KIVU : Kihondo, alt. 1650 m, mars 1954, *Deru* 117; Busenene, alt. 2080 m, oct. 1953, *Van Ysacker* 24; Gandjo-Burungu, alt. 1800 m, 1943, *Michelson* 414; Mushari, alt. 2200 m, nov. 1951, *Spitaels* 114; riv. Mushalala, août 1937, *Ghesquière* 4942; Bobandana, alt. 1500 m, juin 1926, *Robyns* 2498; Buberuka, alt. 1900 m, jan. 1932, *Becquet* 365; Rubengera, nov

(4) KORTH. in TEMM., Verh. Nat. Gesch. Ned. Overz. Bez., Bot., p. 160 (1842).

1931, *Lestrade* 23; montagnes à l'Ouest du Lac Kivu, alt. ± 1800 m, févr.-mars 1929, *Humbert* 7760; Bitale, terr. Kalehe, alt. 1700 m, juin 1957, *Pierlot* 1668; Biega, juin 1946, *Hendrickx* 4099; Mulungu, janv. 1949, *Hendrickx* 5870; Thsirumbi, alt. 1600-1700 m, mars et juillet 1930, *Thomas* 1426 et *De Craene* 17; Kabare, alt. 1860 m, juillet 1941, *Tondeur* 108; entre Mushwere et l'Unga, alt. 1650 m, juin 1932, *Lebrun* 5559; Miki rivière, alt. ± 1950 m, nov. 1947, *Michelson* 690.

District du Ruanda-Urundi : Kisozi, juin 1934, *Lejeune* 140.

Habitat : Endroits marécageux et humides entre (900) 1500 et 2200 m d'altitude.

Noms vernaculaires : Ayo, Djo, Jo (dial. kilendu); Kitubu (dial. kirega); Mutsiku (dial. kihunde et mashi); Muzibira (dial. mashi); Umuzibaziba (dial. kinyaruanda).

Usages : Plante médicinale employée comme vermifuge et contre la dysenterie et la folie; elle supprimerait les douleurs de l'accouchement. Les cendres fournissent du sel. Le bois sert à la fabrication de pirogues (?) et est employé dans la construction.

Observations. — 1. — *M. rubrostipulata* est un arbre de 5-10 m de hauteur, atteignant 35 cm de diam.

2. — Plusieurs auteurs importants comme Hiern ([5]), Schumann ([6]), Hutchinson et Dalziel ([7]), Aubréville ([8]) donnent dans leur clef comme différence entre *Adina* et *Mitragyna*, la présence d'un calice lobé chez le premier genre, d'un calice tronqué ou légèrement lobé chez le second. D'après ces normes, l'espèce traitée appartient au genre *Adina*. La préfloraison et la forme du style ([9]) nous semblent des caractères beaucoup plus importants pour distinguer les deux genres et nous amènent à suivre Haviland en classant l'espèce dans le genre *Mitragyna*.

2. **Mitragyna stipulosa** (DC.) O. Kuntze, Rev. Gen. Pl., I, p. 289 (1891); Mullenders, Végét. Kaniama, Publ. I.N.É.A.C., Sér. sci. 61, p. 473 (1954).

([5]) Hiern in Oliv., Fl. Trop. Afr., III, p. 34 (1877).
([6]) K. Schum. in Engl., Pflanzenfam., IV, 4, p. 55 (1897).
([7]) Hutch. et Dalz., Fl. W.-Trop. Afr., II, p. 67 (1931).
([8]) Aubréville, Fl. Forest. Côte Iv., III, p. 224 (1936).
([9]) Voir la clef des genres, *Bull. Jard. Bot. État Brux.*, XXVII, p. 442 (1957).

Nauclea stipulosa DC., Prod., IV, p. 346 (1830).

Nauclea macrophylla Perr. et Leprieur ex DC., Prodr., IV, p. 346 (1830) pro syn.

Stephegyne stipulosa [« stipulata »] (DC.) Hook. f. in Benth. et Hook. f., Gen. Pl., II, p. 31 (1873); Th. Dur. et Schinz, Acad. Roy. Belg., Mém. in-8°, LIII, 4, p. 151 (1896).

Mitragyne macrophylla Hiern in Oliv., Fl. Trop. Afr., II, p. 41 (1877); De Wild. et Th. Dur., Bull. Herb. Boiss., 2e Sér., I, p. 25 (1900); De Wild., Miss. Laur., p. 274 (1906); Ann. Mus. Congo Belge, Bot., Sér. V, III, p. 282 (1910); Et. Fl. Bang. Ub., p. 386 (1911); Bull. Jard. Bot. État Brux., IV, p. 201 (1914); Th. et H. Dur., Syll., p. 240 (1909); Vermoesen, Ess. Forest. Congo belge, p. 181, pl. (1923).

Mitragyne stipulosa (DC.) O. Kuntze, Rev. Gen. Pl., I, p. 289 (1891); De Wild. et Th. Dur., Ann. Mus. Congo Belge, Bot., Sér. III, I, p. 105 (1901); Fouarge, Gérard et Sacré, Bois du Congo, Publ. I.N.É.A.C., p. 383 (1953).

Mitragyna macrophylla Hiern, loc. cit., corr. Haviland, Journ. Linn. Soc. Bot., XXXIII, p. 72 (1897).

Stephegyne macrophylla Hiern ex Haviland, Journ. Linn. Soc. Bot., XXXIII, p. 72 (1897) pro syn., err.

Mamboga stipulosa (DC.) Hiern, Cat. Welw. Afr. Pl., I, p. 435 (1898).

Mytragina stipulosa (DC.) O. Kuntze, loc. cit., corr. Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 98 (1931); De Wild. et Staner, Contr. Fl. Kat., Suppl. IV, p. 92 (1932).

District Côtier : Luibi, rivière, août 1950, *Wagemans* 153; Malela, 1909-1919, *R. G.* 531, *Verschueren* 3, *Vermoesen* 1310.

District du Mayumbe : Ganda-Sundi, oct. 1919, *Nannan* 3 (?).

District du Bas-Congo : Boma, 1896, *Dewèvre* 871; Mvuazi, oct. 1948 et sept. 1952, *Devred* 346 et 1243; Lula, févr. 1921, *Claessens* 150; Kisantu, 1899-1900, *Gillet* 163 et 765; id., mai 1952, *Callens* 3612.

District du Kasai : Kutu, 1903-1904, *E.* et *M. Laurent* s. n.; Nioki, jan. 1941, *Flamigni* 9039.

District du Bas-Katanga : Mwene-Ditu, juin 1951, *Hardy* 70; Gandajika, juill. 1952, *Germain* 7926; id., avril 1954, *Burie* 35; Kaniama, juill. 1931, *Quarré* 2639; id., juill. 1936, *Herman* 2166;

id., alt. 860 m, août 1947, *Mullenders* 1174; Kitenge, oct. 1955, *Schmitz* 5008.

District Forestier Central : Eala, 1926, *Goossens* 4466, 4569; Bolombo, janv. 1904, *E.* et *M. Laurent* s. n.; Budjala, mai 1937, *Léontovitch* 13; Likimi, déc. 1913, *Lemaire* 104; district des Bangalas, 1895, *Dewèvre* 181; Haut Lopori, sept. 1934, *L. Dubois* 583; Basoko, janv. 1904, *E.* et *M. Laurent* s. n.; Yangambi et environs, alt. ± 470 m, 1937-1938, *Louis* 3369, 6980, 12139; id., 1940, *Germain* 82; id., 1947-1949, *Gilbert* 7377, 8267, 8330, 8668, 8669, 9036, 9400, 9557, 9561, 9803; id., 1950, *Donis* 3547; Iseke (?), 1942, *Michelson* 279.

District de l'Ubangi-Uele : Bosodula, 1948, *Bilderling* 58; Bodangabo, févr. 1955, *Evrard* 233; Ubangi, s. l., déc. 1903, *E.* et *M. Laurent* s. n.; Titule-Bili, mai 1931, *Lebrun* 2799; Tukpwo, mars 1954, *Ph. Gérard* 1222; Doruma, mai 1931, *De Graer* 23; Nala, déc. 1911, *Boone* s. n.; Faradje, juin 1955, *Taton* 1445; Kurukwata, mars 1939, *Gilbert* 2177.

Habitat : Forêts marécageuses, galeries forestières humides.

Noms vernaculaires : Boluku (dist. Tshuapa); Boluwola (Eala); Efufuko (dial. turumbu); Itukuluku (Likimi); Kifufu (dial. kinianga); Kipukapuka (Nioki); Kitubu (dial. kirega); Kofo (dial. zande); Kudo (dial. mongwandi et banza); Lata (dial. logo); Mujua (dial. tshiluba); Mululu Musibwe (Maniema); Nlongwa (Mvuazi et Kisantu); Vuku (Malela); Vuku-Maza (Ganda-Sundi); Wolo (dial. ngwaka).

Usages : Bois tendre employé en construction et pour la fabrication de chaises, de tables, de mortiers à farine, etc...

Observations. — 1. — *Mitragyna stipulosa* est un grand arbre, pouvant atteindre 35 m de haut et 1 m de diam.

2. — Nous avons donné plus haut les synonymes nomenclaturaux de l'espèce. *Nauclea stipulosa* DC. (1830) est le premier non validement publié, basé sur le spécimen récolté par Leprieur. Ce spécimen porte probablement le nom manuscrit *Nauclea macrophylla* Perr. et Leprieur, donné comme synonyme de *N. stipulosa* par De Candolle l.c., mais non accepté par cet auteur à cause des homonymes antérieurs employés par Roxburgh (1824 ?) et Blume (1826). L'épithète *macrophylla* est combinée par Hiern avec le nom

générique *Mitragyne* et par Haviland avec *Mitragyna;* ce dernier auteur attribue à tort à Hiern la combinaison *Stephegyne macrophylla.*

Pour les combinaisons de l'épithète *stipulosa,* seule celle avec *Mitragyna* est légitime, ce nom générique figurant dans la liste des noms à conserver. *Mitragyna* et *Mitragyne* sont à considérer comme le même mot; il n'y a pas de raison pour distinguer deux combinaisons comme semblent l'avoir fait De Wildeman et Staner en attribuant *Mitragyna stipulosa* à Hutchinson et Dalziel.

3. — Le matériel du genre *Mitragyna* est souvent stérile, dépourvu de fleurs, de fruits et de stipules et, de ce fait, difficile à déterminer. En outre, il y a apparemment deux sortes de feuilles : celles qui accompagnent les branches florifères ou fructifères, ovales et subarrondies et à nervure principale bifurquée, et celles des branches stériles (des rejets de souche ?) généralement d'aspect plus jeune, ± oblongues et à nervure principale non bifurquée. Il serait intéressant d'étudier la question sur le terrain.

3. **Mitragyna ciliata** Aubréville et Pellegrin, Bull. Soc. Bot. France, LXXXIII, p. 36 (1936).

M. macrophylla Auct. non Hiern; De Wild., Miss. de Briey, p. 219 et 263 (1920).

District du Mayumbe : Ganda-Sundi, 1912, *de Briey* 182; Luki, janv. 1954, *Hombert* 119, 120.

Habitat : Fonds marécageux.

Noms vernaculaires : Mvuku-masa (Ganda-Sundi); Tsudi ya nsafu (Luki).

Usages : Bois de construction.

Observation. — *M. ciliata* est un grand arbre atteignant 30 m de haut et 0,80 m de diam., probablement peu différent de *M. stipulosa.*

Mitragyna inermis (Willd.) O. Kuntze, Rev. Gen. Pl., I, p. 288 (1891).

Mitragyna africana (Willd.) Korth., Obs. Naucl. Ind., p. 19 (1839); Th. et H. Dur., Syll., p. 240 (1909).

Stephegyne africana (Willd.) Walp., Rep. Bot., II, p. 513 (1852); Th. Dur. et Schinz, Acad. Roy. Belg., Mém. in-8°, LIII, 4, p. 150 (1896).

Observation. — Th. Durand et Schinz (loc. cit.) ont signalé un spécimen de *Pechuel-Loesche*, comme appartenant à cette espèce; cette indication est reprise par Th. et H. Durand (loc. cit.). L'herbier du Jardin Botanique de l'État à Bruxelles ne contient aucun spécimen de cette espèce provenant du Congo. *M. inermis* se distingue à première vue des autres espèces traitées par ses feuilles relativement petites, ne dépassant pas 9 cm de long et 5 cm de large.

NAUCLEA L.

Merrill a montré en 1915 ([10]) que les espèces généralement classées sous le nom générique *Sarcocephalus* appartiennent en réalité au genre *Nauclea*. C'est apparemment en 1948 ([11]) qu'on voit la première application des conclusions de Merrill.

Clef des espèces congolaises du genre *Nauclea*.

A. Stipules obtusément deltoïdes, de 3-5 mm de long; calice à lobes libres et appendiculés (appendices rapidement caducs chez *N. latifolia*) :

I. Arbuste ou petit arbre de savane; pétiole de 0,5-2 cm de long; calice à lobes triangulaires, de ± 1 mm de long, ciliés, surmontés d'un appendice obconique de 2,5-3,5 mm de long, ciliés, très caducs; lobes de la corolle glabres; surface du fruit rugueuse-alvéolée; graines non marginées . . . . . 1. *N. latifolia.*

II. Arbre généralement de forêt ripicole; pétiole de 3-5 cm de long; calice à lobes charnus, oblancéolés, de ± 3 mm de long, densément pubescents, surmontés d'un appendice de ± 1 mm de long, persistant; lobes de la corolle ciliés aux bords et ± pubescentes sur la face intérieure; surface du fruit à aspect spongieux par la persistance des lobes du calice; graines marginées . . . . . 2. *N. Pobeguinii.*

B. Stipules elliptiques, arrondies au sommet, dépassant 1 cm de long; calice sans lobes et sans appendices :

I. Feuilles ne dépassant qu'exceptionnellement 20 cm de long (rejets ou jeunes plantes ?); capitules florifères de ± 3 cm de diam.; tube de la corolle de 5-6,5 mm de long; lobes de la corolle poilus sur la face intérieure; surface du fruit mûr rugueuse-échinée par la déchirure des parois entre les alvéoles . . . . . 3. *N. Diderrichii.*

II. Feuilles dépassant généralement 30 cm de long (26 cm de long chez *N. Gilletii*); capitules florifères de 4-5 cm de diam.; tube de la corolle de 8-10 mm de long :

a. Lobes de la corolle glabres sur la face intérieure; surface du fruit mûr plane, à alvéoles restant entières . . . . 4. *N. Vanderguchtii.*

b. Lobes de la corolle à 1-3 lignes de poils sur la face intérieure; fruit inconnu . . . . . 5. *N. Gilletii.*

([10]) Merrill, E. D., *Journ. Washington Acad. Sci.*, V, p. 530-542 (1915).
([11]) Milne-Redhead, *Kew Bull.*, 1948, p. 459.

1. **Nauclea latifolia** Smith in Rees, Cycl., XXIV, N° 5 (1819).

Nauclea sambucina T. Winterb., Acc. Sierra Leone, II, p. 45 (1803) non. nud.

Sarcocephalus esculentus Afz. ex Sab., Trans. Hort. Soc. Lond., V, p. 442 (1824).

Sarcocephalus Russeggeri Kotschy ex Schweinf., Reliq. Kotsch., p. 49 (1868); Hiern. et Oliv., Fl. Trop. Afr., III, p. 39 (1877); Th. Dur. et Schinz., Acad. Roy. Belg., Mém. in-8°, LIII, 4, p. 150 (1896); Th. et H. Dur., Syll., p. 240 (1909).

Sarcocephalus sambucinus (T. Winterb.) K. Schum. in Engl. et Prantl, Pflanzenfam., IV, 4, p. 59 (1891); Th. Dur. et Schinz, Acad. Roy. Belg., Mém. in-8°, LIII, 4, p. 150 (1896); De Wild. et Th. Dur., Ann. Mus. Congo Belge, Bot., Ser. III, I, p. 105 (1901) p.p.; Bull. Herb. Boiss., 2e Sér., I, p. 25 (1900); K. Schum. et Schlechter, Westafr. Kautsch.-Exp., p. 319 (1900); De Wild., Pl. Laur., p. 54 (1903); Miss. Laur., p. 274 (1906); Ann. Mus. Congo Belge, Bot., Sér. V, III, p. 283 (1910) p.p.; Miss. de Briey, p. 263 (1920); Bull. Jard. Bot. État Brux., VII, p. 277 (1921); Th. et H. Dur., Syll., p. 240 (1909) p.p.

District du Mayumbe : Temvo, févr. 1919, *Vermoesen* 1593; Vaku, déc. 1923, *Wellens* 460; entre Fuiki et Seke-Banza, sept. 1932, *Brouns* 2; Sumba Kituti, janv. 1953, *Wagemans* 458; Luki, févr. 1947, *Devred* 3147.

District du Bas-Congo : Boma, nov. 1931, *Dacremont* 80; Matadi, 1933, *Dacremont* 183, 365; riv. Nkembo, oct. 1895, *Dewèvre* 438; Kitobola, oct. 1903, *E.* et *M. Laurent* s. n.; Tumba, sept. 1913, *Verschueren* 19; Mvuazi, nov. 1948, *Devred* 389; Bas-Congo Oriental, oct. 1893, *Laurent* s. n.; Kisantu et env., 1899-1951, *Gillet* 7, *Vanderyst* s. n., 29331, 39298, *Robyns* 199, *Callens* 2885; Lemfu, mars 1944, *Germain* 2022; Léopoldville, oct. 1915 et déc. 1939, *Achten* 376 et *Becquet* 1015; Kinshasa, sept. 1899, *Schlechter* 12799.

District du Kasai : Wombali, oct. 1913, *Vanderyst* 2410; riv. Fimi, oct. 1903, *E.* et *M. Laurent* s. n.; Nioki, sept. 1943, *Flamigni* 6342; Kutu, déc. 1932, *Lebrun* 6667; Lac Léopold II, nov. 1946, *Jans* 314; Port-Franqui, déc. 1951, *Huet* 86.

District Forestier Central : Bikoro-Coquilhatville, mai 1936, *Louis* 2027; Paulis-Wamba, avril 1936, *Louis* 1731.

District de l'Ubangi-Uele : Bas-Uele, févr. 1935, *Dewulf* 670; Monga, févr. 1931, *Lebrun* 2300; env. Bambesa, 1936, *Pittery* 40, 679; Tukpwo, mai 1937, *Lecompte* 39; Niangara, juill. 1955, *Boutique 28; Dungu,* janv. 1906, *Seret* 433; Yakuluku, mars 1915, *Blommaert* 107; Faradje, juill. 1951, *De Craene* 386; id., alt. 800 m, juin 1955, *Taton* 1378; Talyi, alt. 800 m, juill. 1938, *Piedbœuf* 111.

Lac Albert : terr. Mahagi, alt. ± 850 m, août 1945, *Germain* 4169.

Habitat : Presque exclusivement en savane.

Noms vernaculaires : Dama, Ndonna (dial. zande); Lolo (dial. kikongo); Loso (dial. logo); Namedo, Ngelili (dial. mangbetu); Ntumbi (Mayumbe); Tschifula (dial. luba); Umomo (dial. kilur).

Usages : Fruits comestibles.

Observation. — *N. latifolia* est un arbuste ou un petit arbre de 3-8 m de haut. Il existe, d'après Chevalier ([12]) et Lafitte ([13]), dans cette espèce, des plantes à feuilles à saveur amère (var. *amarissima* Chev.) et d'autres à feuilles à saveur acide mais sans amertume.

2. **Nauclea Pobeguinii** (Pobéguin ex Pellegrin) Merrill, Journ. Wash. Acad. Sci., V, p. 536 (1915).

Sarcocephalus Pobeguini Pobéguin ex Pellegrin, Bull. Soc. Bot. France, LXXIX, p. 222 (1932).

Sarcocephalus sambucinus Auct. non (T. Winterb.) K. Schum.; De Wild. et Th. Dur., Ann Mus. Congo Belge, Bot., Sér. III, I, p. 105 (1901) p.p.; De Wild., Ann. Mus. Congo Belge, Bot., Sér. V, II, p. 193 (1907); III, p. 283 (1910) p.p.; Pl. Bequaert., II, p. 221 (1923); Th. et H. Dur., Syll., p. 240 (1909) p.p.

Sarcocephalus Diderrichii Auct. non De Wild.; Mullenders, Végét. Kaniama, Publ. I.N.É.A.C., Sér. sci. 61, p. 477 (1954) p.p.

Sarcocephalus sp. aff. sambucinus K. Schum.; De Wild., Pl. Bequaert, II, p. 225 (1923).

District Côtier : Katala, 1895, *Dewèvre* 178.

District du Kasai : Tchikapa, déc. 1933, *Lynes* 262; riv. Lulua, terr. Luisa, févr. 1957, *Liben* 2503.

([12]) Chevalier, A., *Rev. Bot. Appl.,* XVIII, p. 176 (1938).
([13]) Lafitte, *Rev. Bot. Appl.,* XVIII, p. 191-193 (1938).

District du Bas-Katanga : Kaniama, sept. 1934, *Herman* 2051.

District Forestier Central : Eala, juin 1907, *Pynaert* 1464; Popolo, sept. 1955, *Evrard* 1822; Bokote, juill. 1942, *Hulstaert* 819; Ileka, riv. Maringa, 1906, *Bruneel* 13; Ikela, avr. 1939, *L. Dubois* 992 et juin 1952, *Germain* 7435; Bas-Uele, oct. 1934, *Dewulf* 102; env. Yangambi, 1937-1950, *Louis* 6915, 7094, 10735, 13695, 13961, 15949, *Germain* 331, *Gilbert* 9047, *Donis* 2867; Piali (Panga), déc. 1913, *Bequaert* 1624; Tely, juin 1938, *Ghesquière* 6930.

District de l'Ubangi-Uele : Bambili, juin 1921, *Claessens* 963.

Habitat : Forêts ripicoles, marais, galeries forestières.

Noms vernaculaires : Bokese, bokese bo libande, Bokese bo lowe (dial. turumbu); Bokese, Ekusuku (dial. lokele); Bonkesa, Bonkeswa (Bokote); Nedju (dial. mangbetu).

Observations. — 1. — *N. Pobeguinii* est un arbre de 5-18 m de hauteur.

2. — Le nom *Sarcocephalus Pobeguini* est donné en herbier par Hua. En 1906, il est publié par Pobéguin ([14]) et en 1909 par Chevalier ([15]), chaque fois sans description. Il est repris par Pellegrin ([16]) en 1932, qui donne à l'espèce son affinité et une diagnose française, assez sommaire, mais suffisante pour reconnaître l'espèce. Nous avons ici la première publication valable du nom *S. Pobeguini;* le nom y est attribué à Pobéguin.

Une description française a été donnée par Aubréville ([17]) (avec une planche) en 1936 et par Chevalier ([18]) en 1938.

3. **Nauclea Diderrichii** (De Wild.) Merrill, Journ. Wash. Acad. Sci., V, p. 535 (1915).

Sarcocephalus Diderrichii De Wild. et Th. Dur. ex De Wild., Rev. Cult. Colon., IX, p. 7 (1901); Pl. Ut. ou Intéress. Congo, I, p. 35 (1903); Miss. de Briey, p. 219 et 263 (1920); Vermoesen, Ess. Forest. Congo belge, p. 245, pl. (1923); Fouarge, Gérard et Sacré, Bois du Congo, Publ. I.N.É.A.C., p. 393 (1953).

Sarcocephalus Trillesii Pierre nom. nud.

([14]) Pobéguin, Ess. Fl. Guin. Franç., p. 36 et 313 (1906).
([15]) Chevalier, A., Végét. Util. Afr. Trop. Franç., V, p. 231 (1909).
([16]) Pellegrin, F., *Bull. Soc. Bot. France*, LXXIX, p. 222 (1932).
([17]) Aubréville, A., Fl. Forest. Côte d'Ivoire, III, p. 230, pl. 329 (1936).
([18]) Chevalier, A., *Rev. Bot. Appl.*, XVIII, p. 184 (1938).

District du Mayumbe : Ganda-Sundi, 1912, *de Briey* 189; s. l., 1901-1903, *Ét. Indép. Congo*, 1901-384, 1903-245, 378, 481; Luki, 1947-1948, *Toussaint* 2340, 2342, 2348, *Donis* 1665.

District du Kasai : Dima, nov. 1909, *Sapin* s. n.; Nioki, août 1940, *Flamigni* 9528.

District Forestier Central : Patambalu, juill. 1953, *Cauwe* 3007; Eala, 1936, *Leemans* 421; Djombo, 1919, *Casteels* 22; distr. Tshuapa, mai 1935, *L. Dubois* 664; La Kulu, jan. 1931, *Van den Brande* 365; env. Yangambi, alt. ± 470 m, 1935-1952, *Louis* 297, 476, 509, 865, 2922 (néotype), 3453, 3508, 6123, 6666, 7474, 9471, *Gilbert* 8124, 8373, 8639, *Donis* 3347, 3350, 3372, 3377; env. Stanleyville, alt. 470 m, 1939, *Van der Meiren* 22, 71; Lubutu, janv. 1915, *Bequaert* 6762; Pangi, alt. 500 m, juin 1942, *Michelson* 112; rivière Ndarikwa, alt. ± 640 m, *Michelson* 221; Irumu-Beni, alt. 1000 m, août 1939, *Gille* 265.

Habitat : Forêts primitives.

Noms vernaculaires : Bangwata, Telesa (dial. kiswahili); Bokankungu (Djombo); Bokesse, Okesse (dial. turumbu); Bonkenyama (Lac Léopold II); Gbwanda (dial. kinande et kimbula); Ikoi (dial. kissongola, kitembo et kirega); Kusumutfi, Matji-matji, Mulalamboy (dial. baluba); Linkendu-kendu (distr. Tshuapa); Ngulu, Ngulu Maza (Mayumbe).

Usages : Bois d'ébénisterie; construction des canots des indigènes.

Observations. — 1. — *Nauclea Diderrichii* est un grand arbre atteignant 55 m de hauteur et 1,25 m de diam., à fût droit, cylindrique. Le bois est jaune, dur, résistant aux intempéries et aux insectes.

2. — Le nom *Sarcocephalus Diderrichii* est publié sans diagnose par De Wildeman et Th. Durand ([19]) en 1897, puis en 1901 et 1903, avec une description par De Wildeman seul ([20]) et ([21]). Chevalier ([22]) rejette ce nom en faveur de *S. Trillesii* Pierre parce que la description de *S. Diderrichii* est « assez vague » et « peut s'appliquer à presque tous les *Sarcocephalus* » et parce que le maté-

([19]) De Wild. et Th. Dur. in Masui, L'État Indépendant à l'Exposition de Bruxelles-Tervueren, p. 439 (1897).
([20]) De Wild., *Rev. Cult. Colon.*, IX, p. 7 (1901).
([21]) De Wild., Pl. Util. ou Intéress. Congo, I, p. 35 (1903).
([22]) Chevalier, A., *Rev. Bot. Appl.*, XVIII, p. 185 (1938).

riel de Diderrich est perdu (De Wildeman parle de « matériaux égarés » en 1901, de « matériaux incomplets » en 1903).

Nous ne pouvons admettre la position de Chevalier : la description de De Wildeman nous paraît caractériser suffisamment l'espèce. D'autre part, la perte du matériel-type nous oblige à choisir un néotype, mais ne nous autorise pas à rejeter le nom.

A sa demande, De Wildeman a reçu en 1901 et en 1903 du matériel nouveau de *S. Diderrichii,* mais ce matériel ne porte pas de détermination et n'est pas en bon état. Un autre spécimen, de *Briey* 189, reçu en 1913, est le seul spécimen authentifié, mais il ne possède pas de fleurs. Il nous semble donc justifié de choisir le néotype en dehors du matériel vu ou authentifié par De Wildeman.

Remarquons enfin que le nom *S. Trillesii* n'a jamais été publié valablement. Chevalier ([22]) prétend avoir validé le nom en 1917 par la publication d'une planche ([23]); or, d'après l'article 43 du code de nomenclature de 1956, une planche publiée après le 1er janvier 1908 ne suffit pas pour valider le nom d'une espèce.

4. **Nauclea Vanderguchtii** (De Wild.) Petit, comb. nov.

Sarcocephalus sp. Bequaert, Bull. Am. Mus. Nat. Hist., XLV, p. 460 (1922).

Sarcocephalus Vanderguchti De Wild., Pl. Bequaert., II, p. 221 (1923).

Sarcocephalus nervosus Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 100 (1931).

District du Mayumbe : Luki, sept. 1949, *Maudoux* 167.

District Forestier Central : rivière Lolaka, avr. 1935, *L. Dubois* 644; Buta, mai 1921, *Claessens* 689 (syntype); env. Yangambi, alt. ± 470 m, 1937-1949, *Louis* 3564, 8392, 13438, 13736, 13746, 15799, 15988, *Gilbert* 8138, 8157, 8582, 8583, 8697, 9545; env. Nala, 1912, *Vander Gucht* 94 (lectotype); *Walikale-Lubutu,* janv. 1915, *Bequaert* 6629 (syntype); Penge-Irumu, févr. 1914, *Bequaert* 2605 (syntype); rivière Eke, alt. 700 m, 1942, *Michelson* 185; Mingazi, terr. Kalehe, alt. 950 m, août 1956, *Pierlot* 1344, 1345.

Habitat : Forêts ripicoles et marécageuses.

([22]) Chevalier, A., Végét. Ut. Afr. Trop. Franç., IX, p. 230, tabl. XXIV (1917).

Noms vernaculaires : Bokese, Bokese bo lowe, Efufuko (dial. turumbu); Kitubu (dial. kitembo et kirega); Meiporungi (dial. babua); Panga ia longa mamba (Luki); Tenku (distr. Tshuapa).

Usages : Fabrication de chaises indigènes et de lattes pour le placement de tuiles.

Observations. — Nauclea Vanderguchtii est un arbre atteignant 15 m de haut et 25 (60) cm de diam. La partie supérieure des entrenœuds est souvent ± renflée et creuse et habitée par des fourmis *(Crematogaster africana* subsp. *winkleri* var. *fickendeyi)* ([24]).

5. **Nauclea Gilletii** (De Wild.) Merrill, Journ. Wash. Acad. Sci., V, p. 535 (1915).

Sarcocephalus Gilletii De Wild., Rev. Cult. Colon., IX, p. 8 (1901); Pl. Util. ou Intéress. Congo, I, p. 38 (1903); De Wild. et Th. Dur., Bull. Herb. Boiss., 2e Sér., I, p. 754 (1901); Th. et H. Dur., Syll., p. 239 (1909).

District du Bas-Congo : Kisantu, 1900, *Gillet* 1069 (holotype).

Observation. — Ce spécimen-type est malheureusement incomplet et ne fournit pas tous les éléments nécessaires pour préciser l'espèce. Il se compose d'éléments détachés : une branche et une stipule, une inflorescence rappelant celle de *N. Diderrichii,* mais plus grande, et une feuille qu'on pourrait rattacher à *N. Vanderguchtii.*

Jardin botanique de l'État, Bruxelles.

([24]) Bequaert, J., *Bull. Am. Mus. Nat. Hist.,* XLV, p. 461 (1922).

RANDIA AND *GARDENIA* IN WEST AFRICA

BY

R. W. J. KEAY.

For the new edition of the Flora of West Tropical Africa I have felt it necessary to revise drastically the species which were referred, in the first edition, to the genera *Randia*, *Gardenia*, and their allies. Hutchinson and Dalziel's classification followed the tradition established by J. D. Hooker [Gen. Pl. II, 1 (1873)], by W. P. Hiern [Fl. Trop. Afr., III (1877)] and by K. Schumann [Pflanzenfam., IV, 4 (1897)]. This tradition accepted *Randia* as a very heterogenous pan-tropical assemblage of species, separated from the somewhat less heterogenous Old World genus *Gardenia* by the ovary : « 2-celled in *Randia* » and « 1-celled in *Gardenia* ». Five other African genera (viz. *Oxyanthus*, *Morelia*, *Mitriostigma*, *Amaralia* and *Macrosphyra*) have been generally accepted, although at one time or another included in *Randia* and/or *Gardenia*. For instance the plant now generally known as *Macrosphyra longistyla* was included successively in *Randia*, *Oxyanthus* and *Gardenia* before Hooker described it as a new genus in the Genera Plantarum.

Several instances will be noted, in the citations which follow, of the same species having been described independently by one author under *Randia* and by another (or even the same !) author under *Gardenia*. Each author's decision was presumably based mainly on whether he found the ovary to be « 1-celled » or « 2-celled ». Unfortunately this character is notoriously unreliable in certain species in this group. An ovary with two opposite parietal placentae may be « 1-celled » in the middle but « 2-celled » near the top or bottom if the placentae meet to form a false septum.

Thus a transverse section taken at one level indicates a « 1-celled ovary » and at another level a « 2-celled ovary » : The type species of *Gardenia* (*G. jasminoides* Ellis) has in fact an ovary of this type. Ellis' original description (1761) describes the fruit as « bilocularis » and Solander's amplified description and drawings (1763) clearly give the « seed vessel » as « divided into two cells by a thin membranous partition ». In view of this, it is surprising that so many workers should have regarded the ovary of *Gardenia* as typically « 1-celled ».

A common occurence in this group, moreover, is for the developing ovules on two parietal placentae in a 1-celled ovary to meet in the middle and to form a more or less solid mass of seeds in fruit. It is not uncommon, too, for the ovules to be immersed in the placentae. It should, however, be emphasised that there are species in which the ovary seems consistently to be definitely 1-celled or definitely 2-celled.

An added, practical, problem is that the ovaries and seed-masses in many of these species dry black and contain a glutinous substance; this makes dissection difficult, even with good lighting and a modern binocular miscroscope.

Hutchinson's poignant footnote in the F. W. T. A. (II, p. 72) — « The genera *Gardenia* and *Randia* are much in need of revision and recasting on lines other than the placentation of the ovary ». — expresses the feelings of most botanists who have dealt with the genera. The position, already unsatisfactory in the Genera Planarum (1873) because *Randia* was so heterogenous, had become far worse by the time of the F. W. T. A. (1931) when *Gardenia* too was giving shelter to several diverse and anomalous species.

The need for a thorough revision of these genera still remains; it would entail a long and laborious study by a monographer. Unfortunately present arrangements, whereby a large proportion of the funds for tropical taxonomic botany are tied to regional flora projects, make the prospect of such a complete and thorough revision remote. Instead of this monographic study, regional works for Africa since 1931 have, naturally enough, dealt only with their own species; some authors, no doubt, sighed with relief at the paucity of species recorded in their areas ! My own task was less easy, for the Flora of West Tropical Africa contains more than fifty species in this group. It is, however, gratifying to find that the genera I am recognising in the F. W. T. A. will accommodate most, if not all, the other tropical African species.

I have found it necessary to describe seven new genera and to revive five others which were not maintained in the F. T. A. and F. W. T. A. Altogether I am recognising in this paper twenty-one genera, all of which have at one time or another been included, wholly or partly, in *Randia* or *Gardenia;* in the F. W. T. A. (1931) only eight of these were recognised. By contrast, Roberty recognised only two of these genera in his « Petite Flore de l'Ouest-Africain » (1954). In addition to the species I have retained in *Gardenia,* Roberty included in his « Gardenia » other species which I am referring to *Xeromphis, Aidia, Massularia, Euclinia, Rothmannia, Didymosalpinx, Oxyanthus, Amaralia* and *Macrosphyra*. The only other genus Roberty recognised in this group was, rather oddly, the monotypic *Morelia*.

The results of some interesting and important work on the methods of branching in « Randia » were published by Fagerlind in 1943. Unfortunately this work was not as complete as one would have wished, and it is not altogether satisfactory from a taxonomic point of view. The emphasis laid on methods of branching as a generic character is, however, most valuable and finds its place in the classification I have adopted.

On page 386 of his book « Pollen Morphology & Plant Taxonomy » Erdtman (1952) indicated that several types of pollen are known in « Randia ». More recently, in reponse to my request, Prof. Erdtman has, with the assistance of A. Bertsch, very kindly examined several other species in the « Randia-Gardenia » group and has allowed me to include some of his descriptions in my paper. Erdtman's information about the pollen has been of great assistance to me in revising this group. I have not knowingly grouped together species with strikingly different pollen, nor have I separated any two genera solely on pollen characters.

Some most valuable preliminary work on the African species of Randia *(sensu lato)* has been done by A. A. Bullock in the Kew Herbarium. I have been able to discuss many points with him and I would like to record here my sincere thanks for the help and advice he has so willingly given.

G. Taylor [in Exell, Cat. S. Tomé, p. 197 (1944)] drew attention to the difference which exists between the type of the genus *Randia* Linn. (the American species *R. mitis* Linn.) and the majority of the African species. *Randia* Linn. (sensu stricto) agrees with several African species in having monopodially growing stems, usually armed with single or paired spines (formed from modified

lateral branches), and 1-3 flowers terminating opposite pairs of much abbreviated leafy lateral shoots. Two African species of this type have been separated off into the genus *Lachnosiphonium* Hochst., but this is congeneric with the earlier *Xeromphis* Raf., based on an Asiatic species. The differences between *Xeromphis* and *Randia* are set out on page 37.

Reference has already been made to *G. jasminoides*, the type species of the genus *Gardenia*. It will be recalled that the ovary of this species has only *two* parietal placentae which often meet in the middle to make the ovary and fruit at least partially « 2-celled ». Of the African species, *G. sokotensis* Hutch., *G. resiniflua* Hiern, *G. succosa* Bak. (Madagascar) and possibly others, agree with the type of *Gardenia* in this character of the ovary and also in the relatively thin-walled fruit. The well-known African species *G. Thunbergia* Linn. f., *G. ternifolia* Schum. et Thonn., etc., differ from these species in having 3-9 placentae in the 1-celled ovary and in having relatively thick-walled fruits; I do not, however, consider that these are necessarly grounds for excluding them from *Gardenia*.

Key (for F. W. T. A. area) to genera previously included in *Randia* or *Gardenia*.

In this key reference is made to a character of the pollen grains which can easily be observed with an ordinary microscope, without special knowledge of pollen morphology; viz. whether the pollen grains are single, or in tetrads, or aggregated in spindle-shaped massulae. For ease of reference the genera dealt with in this paper are listed on the next page with reference to this character.

The following generic key covers all the species in the F. W. T. A. area, which have at one time or another been referred to *Randia* or *Gardenia*. It will, I believe, also cover most of the other African species, although further study of some of these species may reveal grounds for separating a few additional genera. I have not, on account of time, studied closely all the American, Asiatic and Australian species in these genera and their allies, but I have studied some of them and at least assured myself that none of my new genera are congeneric with previously described non-African genera.

Pollen grains single	Pollen grains in tetrads	Pollen grains in spindle-shaped massulae
Aidia	*Calochone*	*Massularia*
Amaralia	*Euclinia*	
Aulacocalyx	*Gardenia*	
Brenania	*Macrosphyra*	
Didymosalpinx	*Mitriostigma*	
Morelia	*Oligocodon*	
Porterandia	*Oxyanthus*	
Pseudogardenia	*Polycoryne*	
Rothmannia	*Preussiodora*	
Schumanniophyton	*Randia*	
Xeromphis		

KEY.

A. Ovary (3-) 4-celled; ovules 2-numerous per cell, placentation axile; inflorescences several- to many-flowered, appearing laterally :

I. Corolla lobes 5, longer than the short tube; ovules 2-4 per cell; stamens 5, exserted; style-head fusiform, undivided; flowers pedicellate in pedunculate cymes borne laterally at alternate nodes; leaves petiolate, up to 14 cm long and 8 cm broad . . . . . 1. *Morelia.*

II. Corolla lobes (6-) 8, shorter than the long tube; ovules numerous in each cell; stamens (6-) 8, included; style-head 4-lobed; flowers sessile in a dense sessile cluster subtended by broad bracts and borne at ends of shoots opposite a single leaf and just above a pair of leaves; leaves sessile, up to 120 cm long and 45 cm broad; ovary (3-) 4-celled . . . . . 6. *Schumanniophyton.*

B. Ovary 1-2-celled; style-head usually capitate, clavate or fusiform, undivided or sometimes shortly cleft but never with spreading arms :

I. Solitary flowers or inflorescences terminal (sometimes on lateral branchlets), or appearing laterally by sympodial growth, never truly axillary, if apparently in axils then never on both sides of stem at same node :

a. Ovules several to numerous; placentae on walls or septum of ovary :

1. Inflorescences several- to many-flowered always appearing laterally at alternate nodes; pollen grains single or in spindle-shaped massulae :

α. Stipules not forming a truncate sheath, laminae rounded to acuminate at apex usually with a fringe of hairs around the node inside them; ovary 2-celled, placentae borne on the septum :

* Pollen grains aggregated into spindle-shaped massulae about 250 μ long; corolla glabrous inside and outside; anthers included; style-head divided, well exserted; fruits ovoid, beaked, 5-9 cm long . . . . . 3. *Massularia.*

** Pollen grains single; corolla not glabrous inside and outside; style-head not divided; fruits subglobose or ellipsoid, up to 3 cm long :

† Anthers and style well exserted; corolla villous inside towards the throat, glabrous or pubescent outside, tube cylindrical, lobes often reflexed . . 2. *Aidia.*

†† Anthers and style not exceeding the corolla tube; corolla glabrous inside or glabrous except for a villous band towards the base, silky pilose outside except at base, tube cylindrical or funnel-shaped, lobes mostly erect . . . . . 4. *Porterandia.*

β. Stipules forming a truncate sheath, ciliate at the margin; corolla tube broadly cylindrical, glabrous except for a ring of hairs inside, lobes broad, rounded, erect; anthers included; style-head divided; placentae parietal, ovary 1-celled or partially 2-celled; pollen grains single . . . . 5. *Brenania.*

2. Inflorescences terminal, or appearing laterally at successive nodes, or flowers solitary or paired :

α. Inflorescences several- to many-flowered, always terminal (sometimes on lateral branchlets); placentae parietal; ovary usually 1-celled; pollen grains in tetrads :

* Anthers not included in the tubular lower portion of corolla but completely exserted at the top between the lobes; style-head subglobose, very long-exserted; cymes several- to many-flowered, terminating long and short shoots; corolla hairy outside; ovary 1-celled . . . . . 7. *Macrosphyra.*

** Anthers included wholly or mostly in the corolla tube; style-head usually longer than broad, not long-exserted :

† Calyx lobes distinct; corolla tube cylindrical or infundibuliform, without a large campanulate upper portion :

§ Cymose panicles subsessile at the ends of long shoots :

/ Leaves and stem hirsute; calyx lobes subulate or lanceolate; corolla infundibuliform, pubescent outside, glabrous inside except for a ring of hairs near base; style-head clavate or obovate; ovary 1-celled . . . . . 8. *Calochone.*

// Leaves and stems glabrous; calyx lobes leafy, persistent in fruit; corolla tube cylindrical, glabrous outside, slightly pubescent inside; style-head linear-ellipsoid; ovary 2-celled, sometimes only partially so . . 9. *Preussiodora.*

§§ Cymose panicles borne terminally on young relatively short lateral shoots with 1-3 pairs of new leaves and conspicuous stipules; stem and leaves glabrous; corolla very narrowly infundibuliform, glabrous inside and outside; style-head obovate-spathulate; ovary 1-celled . . . . 10. *Polycoryne.*

†† Calyx truncate; lower portion of corolla shortly and narrowly tubular, abruptly expanded into the relatively large upper campanulate portion; corolla glabrous except for a dense band of hairs inside at the top of the narrow tubular portion; ovary 1-celled; style-head elongate-fusiform; cymes short, few-flowered; stem and leaves globrous . . . . 11. *Oligocodon.*

3. Inflorescences appearing laterally at successive nodes, or if terminal then flowers 1-2 (if more, then pollen grains single); pollen grains single or in tetrads :

α. Branches usually armed with spines formed from modified lateral branchlets; flowers 1-2 (-3) together, terminating opposite pairs of very much abbreviated leafy lateral shoots; ovary 2-celled, placentae attached to the septum which divides the seed-masses in fruit; pollen grains single . . . . . 12. *Xeromphis.*

β. Branches not armed with spines (but if, in some species of *Gardenia,* lateral branchlets tend to be spine-like, then pollen grains in tetrads and ovary 1-celled with 3-9 placentae); placentae 2-9, parietal; ovary 1-2-celled, seeds forming a single mass in fruit :

* Pollen grains in tetrads :

† Stipules chaffy, persistent; leaves deciduous, crowded below the solitary flowers, with long almost leafless internodes between the clusters; calyx tube very short, lobes spreading; ovary 2-celled, placentae 2 . . . . . 13. *Euclinia.*

†† Stipules not chaffy, leaves not as above; ovary 1-celled (or partially 2-celled) :

§ Flowers solitary or paired, terminal, or appearing lateral by sympodial growth; corolla usually more or less funnel-shaped and often large; stipules sheathing, often truncate; young parts usually glutinous; placentae 2-9; calyx tube well developed . . . . . .14. *Gardenia.*

§§ Flowers 3 or more together in lateral cymes; stipules lanceolate, scarcely sheathing; young parts not glutinous; placentae 2; calyx tube often short :

/ Anthers included (or nearly so) in the funnel-shaped corolla tube; style included or just exserted . . . . . 15. *Mitriostigma.*

// Anthers not included in the long narrowly cylindrical corolla tube; style well exserted . . . . . 16. *Oxyanthus.*

** Pollen grains single; placentae 2 :

† Calyx lobes in bud open or overlapping to the left; flowers solitary or 2-10, terminal or appearing laterally on abbreviated shoots on account of the sympodial growth :

§ Calyx tube glabrous and minutely papillose inside, truncate, with broad leafy overlapping lobes attached outside; corolla lobes overlapping to left; flowers solitary; ovary 1-celled; scandent shrub . . . . . 17. *Pseudogardenia.*

§§ Calyx tube velutinous inside, with dentate, linear or filiform lobes not attached outside a truncate tube and not overlapping in bud; calyx tube sometimes split at anthesis; corolla lobes overlapping to left or right; flowers 1-10; ovary 2-celled or partially 2-celled; erect shrubs or trees . . . . . 18. *Rothmannia.*

†† Calyx lobes in bud contorted and overlapping to the right (in species with short lobes, see very young bud or the thin margin on the left of each lobe); cymes 1- to several-flowered, normally axillary on one side of stem at successive nodes, rarely terminal; calyx

tube finely velutinous inside and outside; corolla velutinous outside except for a glabrous portion at the base, lobes short and broad, overlapping to the left; ovary 2-celled; ovary and fruit often distinctly 10-ribbed; lianes . . . . . 19. *Amaralia*.

b. Ovules two in a single pendulous placenta in each of the two ovary cells; flowers 1-several subtended by a single leaf, clustered together at the ends of very short terminal branchlets, often appearing laterally at the nodes owing to sympodial growth of the stem; pollen grains single . . . . . 20. *Aulacocalyx*.

II. Solitary flowers supra-axillary on both sides of the monopodially growing stem; ovules numerous on 2 parietal placentae which often meet to make the ovary partially 2-celled; corolla tube longitudinally ribbed, trumpet-shaped; pollen grains single; stems often armed with spinescent abbreviated lateral shoots . . . . . 21. *Didymosalpinx*.

1. MORELIA A. Rich. ex DC., Prod., IV, p. 617 (1830).

Monotypic genus.

Morelia senegalensis A. Rich. ex DC., l. c.

Type : Senegal, *Leprieur* et *Perrottet* s.n. (G-DC, holotype; K, isotype !).

Extends to Sudan and Belgian Congo.

Observations. — 1. — Although included in *Randia* sect. *Gynopachys* by Hooker in the Genera Plantarum, all other authors have maintained *Morelia* as a distinct monotypic genus.

2. — *Morelia* closely resembles *Aidia* but is distinguished by the 4-celled ovary.

2. AIDIA Lour., Fl. Cochinch., p. 143 (1790);
G. Taylor in Exell, Cat. S. Tomé, p. 197 (1944).

Type species : *Aidia cochinchinensis* Lour.

Numerous species; represented in tropical Africa, tropical Asia and Australia.

The F. W. T. A. species are :

1. **Aidia rubens** (Hiern) G. Taylor, l. c., p. 200 (1944).

Randia rubens Hiern in Oliv., Fl. Trop. Afr., III, p. 95 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931).

Type : E. Nigeria, *Thomson* 87 (K, holotype !).

Also in French Cameroons.

2. **Aidia genipiflora** (DC.) Dandy in F. W. Andr., Fl. Pl. A.-E. Sud., II, p. 424 (1952).

Randia genipaeflora DC., Prod., III, p. 389 (1830).
Gardenia genipaeflora (DC.) Roberty, Bull. I. F. A. N., XVI, p. 52 (1954).
Randia sassandrae A. Chev., Explor. Bot., p. 322 (1920), nomen nudum.

Type : Sierra Leone, *Smeathmann* s.n. (G-DC, holotype).
Also widespread from Portuguese Guinea to British Cameroons and Fernando Po.

3. **MASSULARIA** (K. Schum.) Hoyle, Gold Coast Check-list, pp. 110, 115 (1937).

Randia Linn. sect. *Massularia* K. Schum. in Engl. et Prantl, Pflanzenfam., IV, 4, p. 76 (1891).

Monotypic genus.

Massularia acuminata (G. Don) Bullock ex Hoyle, l. c.

Gardenia ? acuminata G. Don, Gen. Syst., III, p. 499 (1834).
Randia acuminata (G. Don) Benth. in Hook., Niger Fl., p. 385 (1849); Hiern in Oliv., Fl. Trop. Afr., III, p. 95 (1873); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931).
Randia cacaocarpa Wernham, Journ. Bot., LIV, p. 226 (1916).

Type : Sierra Leone, *Don* s.n. (BM, holotype !).
Extends from Sierra Leone to Belgian Congo.

Observation. — The pollen massulae are well shown in K. Schumann's plate in Pflanzenfam., IV, 4, p. 76, fig. 28, E-F.

4. **PORTERANDIA** Ridley, Kew Bull., 1939, p. 593 (1940).

Randia Linn. sect. *Anisophyllea* Hook. f., Fl. Brit. Ind., III, p. 113 (1880); Benth. et Hook. f., Gen. Pl., II, p. 89 (1883).

Type species : *Porterandia anisophylla* (Jack ex Roxb.) Ridley.
Ridley referred nine Asiatic species to this genus; in addition the following African species should be included :

1. **Porterandia cladantha** (K. Schum.) Keay, comb. nov.

Randia cladantha K. Schum., Engl. Bot. Jahrb., XXVIII, p. 62 (1899); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931).

Type : French Cameroons, *Zenker* 1540 et 1872 (K, isosyntypes !).

Also recorded from W. Nigeria (e.g. *Kennedy* 1391), E. Nigeria (e.g. *Catterall* 35), British Cameroons (*Olorunfemi* FHI 30555), Spanish Guinea (*Tessmann* 119 et 547), Cabinda (*Dawe* 269), and Belgian Congo (e.g. *Louis* 3286).

2. **Porterandia nalaensis** (De Wild.) Keay, comb. nov.

Randia nalaensis De Wild., Ann. Mus. Congo, V, 2, p. 347 (1908).

Randia Adolfi-friederici K. Krause in Mildbr., Wiss. Ergebn. Deutsch. Zentr.-Afr.-Exped. 1907-8, II, p. 320 (1911).

Type : Belgian Congo, *Seret* 805 (BR, holotype !).

3. **Porterandia penduliflora** (K. Schum.) Keay, comb. nov.

Randia penduliflora K. Schum. in Engl., Pflanzenw. Ost-Afr., C, p. 380 (1895).

Amaralia penduliflora (K. Schum.) Wernham, Journ. Bot., LV, p. 3 (1917); Brenan, Tanganyika Check-list, II, p. 482 (1949).

Randia sericantha K. Schum., Notizbl. Bot. Gart. Berl., III, p. 84 (1900), nomen nudum.

Type : Tanganyika, *Volkens* 127 (K, isotype !).

4. **Porterandia annulata** (K. Schum.) Keay, comb. nov.

Randia annulata K. Schum., Engl. Bot. Jahrb., XXIII, p. 435 (1897).

Randia Letestui Pellegr., Bull. Soc. Bot. Fr., LXXXII, p. 467 (1936).

Type : Gabon, *Soyaux* 306 (K, isotype !).

5. **Porterandia castaneofulva** (S. Moore) Keay, comb. nov.

Randia castaneofulva S. Moore, Journ. Linn. Soc., XXXVII, p. 304 (1906).

Brenania spathulifolia (GOOD) KEAY: A. flowering shoot (× 2/3); B. calyx (× 3); C. corolla (× 3); D. section of corolla (× 3); E. stamen (× 6); F. style (× 3); G. section through calyx, receptacle and ovary (× 6); H. dissected ovary (× 8); I. transverse section of ovary (× 8); J. half a fruit (× 2/3). (A: *Mildbraed* 8148; B-I: *Mildbraed* 7720; J: *Brenan* 9053.)

Type : Angola, *Gossweiler* 621 (BM, holotype ! K, P, isotypes !). Also known in Gabon (*Le Testu* 1632; *Thollon* 1321).

5. BRENANIA Keay, gen. nov.

Arbores usque 35 m alti, semper virides, truncis rectis elongatis, ramulis juventute glabris et glutinosis, foliis grandibus, glabris, coriaceis instructi. *Stipulae* intrapetiolares vaginatim amplexicaules, vernicosae et juventute glutinosae, margine truncatae et ciliolatae. *Inflorescentiae* pluri-florae, cymosae, foliis solitariis oppositae, ad nodiis alternatis, laterale dispositae. *Calycis* tubus brevis, truncatus vel obscure et late 5-denticulatus. *Corollae* tubus, cylindricus, longitudine quam latitudine vix bis tantus, parte interiore piloso excepto glaber; lobi 5, oblongo-rotundati, contorti. *Antherae* lineares 5, sessiles, fauci corollae inclusae. *Stylus* in apicem acuminatum 2-lobatum longitudinaliter striatum dilatus, haud exsertus. *Ovarium* placentis 2, parietalibus, 1-loculare vel saepius ob placentis conjugentibus plus minusve 2-loculare; ovula numerosa. *Fructus* globosus, acriter putens, exocarpo siccitate dure corneo, seminibus lenticulatis in massam unicam conglobatis instructus.

Genus adhuc monotypicus.

The pollen grains (of *Mildbread* 7720) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis : Grains 3-colporate (fossaperturate), (prolate spheroidal-) subprolate, 26 × 21 μ. Exine ± 2 μ thick. Sexine as thick as or slightly thicker than nexine, tegillate. Tegillum rather thick with a very fine LO-pattern difficult to analyse (probably provided with small puncta or sometimes faintly reticulate ?) and supported by densely spaced bacula. OL (puncta, lumina ?). Colpi long (apocolpium about 3 μ in diameter), narrow. Colpi margins slightly incrassate except at the colpi ends. Ora lalongate, about 2-3 μ high, equatorially not sharply delimited.

Brenania spathulifolia (Good) Keay, comb. nov. — Plate I.

Randia spathulifolia Good, Journ. Bot., LXIV, Suppl. 2, p. 13 (1926).

Randia Walkeri Pellegr., Rev. Bot. Appliq., XVIII, p. 499 (1938).

Gardenia voacangoides MILDBR., Wiss. Ergebn. Deutsch. Zentr.-Afr.-Exped. 1910-11, II, p. 35 (1922), nomen nudum.

Planta incerta No. 5 — CHEVALIER, Vég. Util. Afr. Trop. Fr., IX, p. 322 (1916).

Type : Cabinda, *Gossweiler* 6701 (BM, holotype !).

Also recorded from W. Nigeria (*Ebuade* in herb. *Brenan* 9053), E. Nigeria (*Onochie* FHI 33163), French Cameroons (*Mildbraed* 7720), and Gabon (e.g. *Le Testu* 8370).

Observation. — I have great pleasure in naming this distinct new genus after my friend Mr. J. P. M. Brenan who collected the plant in W. Nigeria.

6. SCHUMANNIOPHYTON HARMS in ENGL. et PRANTL, Pflanzenfam., Nachtr. I, p. 313 (1897).

Tetrastigma K. SCHUM. (1896), non PLANCH. (1887).

Type species : *Schumanniophyton magnificum* (K. SCHUM.) HARMS.

Possibly two other species; confined to the rain forest region of western Africa. The F. W. T. A. species is :

Schumanniophyton magnificum (K. SCHUM.) HARMS l. c.

Tetrastigma magnificum K. SCHUM., Engl. Bot. Jahrb., XXIII, p. 445 (1896).

Randia immanifolia WERNHAM, Cat. Talb. Nig. Pl., p. 45 (1913).

Type : French Cameroons, *Zenker* 441 (B, holotype, presumably destroyed).

Also in Ghana, E. and W. Nigeria, British Cameroons, Gabon and Cabinda.

7. MACROSPHYRA HOOK. F. in BENTH. et HOOK. F., Gen. Fl., II, p. 86 (1873).

Type species : *Mascrosphyra longistyla* (DC.) HOOK. F. ex HIERN.

Two or three other species; confined to tropical Africa. The F. W. T. A. species are :

1. **Macrosphyra longistyla** (DC.) Hook. f. ex Hiern in Oliv., Fl. Trop. Afr., III, p. 106 (1877).

Randia longistyla DC., Prod., IV, p. 388 (1830).
Gardenia longistyla (DC.) Hook., Bot. Mag., t. 4322 (1847).
Oxyanthus villosus G. Don, Gen. Syst., III, p. 494 (1834).
Gardenia palacea A. Rich., Mém. Soc. Hist. Nat. Paris, V, p. 241 (1834).

Type : Gambia, *Leprieur* et *Perrottet* (G — DC., holotype). Extends from Senegal to Sudan and Uganda.

2. **Macrosphyra brachysiphon** Wernham, Journ. Bot., LV, p. 79 (1917).

Type : E. Nigeria, *Talbot* 3764 (BM, holotype ! K, isotype !). Also in W. Nigeria.

8. CALOCHONE Keay, gen. nov.

Frutices ramulis suberectis hirsutis, foliis hirsutis instructi. *Stipulae* intrapetiolares basi connatae, laminis ovatis vel lanceolatis praeditae. *Inflorescentiae* paniculato-cymosae, pluri- vel multi-florae, ramulos elongatos terminantes. *Calyx* lobis 5, lanceolatis, acuminatis, quam tubo brevissimo multo superantibus instructus. *Corolla* quam calyx multo longior, extra pubescens; tubus infundibuliformis vel anguste infundibuliformis intus cingulo pilorum supra basin ornatus cetere glaber; lobi 5, contorti, ovati, elliptici vel rotundati. *Antherae* 5, lineares, sessiles, fauce corollae affixae, haud exserta. *Stylus* glaber, paulo exsertus, in partem superiorem clavatam vel obovoideam longitudinaliter striatam apice stigmatifero bifido dilatus. *Ovarium* 1-loculare, placentis parietalibus 2, seminibus numerosis provisum. *Fructus* adhuc ignotus.

Species generis typica : *Calochone acuminata* Keay.

Derivation : καλος, beautiful; χωνη, a funnel.

The pollen grains (of *Keay* FHI 28554) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis : Grains ± closely united in tetrads (tetrad diameter about 62 μ). Individual grains 3-porate (34 × 49 μ). Exine about 2-5 μ thick. Sexine about as thick as nexine or thicker, reticulate-ornate. Reticulum heterobrochate (largest lumina about 3-4 μ in diameter).

Calochone acuminata KEAY: A. flowering shoot (× 2/3); B. calyx (× 2) C. longitudinal section of flower (× 1); D. stigma (× 2); E. longitudinal section of calyx and ovary; F. transverse section of ovary (diagrammatic). (A - F: *Keay* FHI 28554.)

Muri straight - slightly curved, psilate, about 1.5 μ broad, duplibaculate ? (bacula indistinct). Lumina psilate- $\pm$ granulate; adjoining parts near the dissepiments $\pm$ ornate. OL (lumina), LO (bacula and granula). Pori $\pm$ circular, about 3-4 μ in diameter, surrounded by a pronounced nexinous (?) thickening; these pore margins are about 3 μ broad.

1. **Calochone Redingii** (De Wild.) Keay, comb. nov.

Macrosphyra Redingii De Wild., Bull. Jard. Bot. Brux., V, p. 25 (1915).

Type : Belgian Congo, *Reding* 3 (BR, holotype !).

2. **Calochone acuminata** Keay sp. nov., a *C. Redingii* (De Wild.) Keay, stipulis floribusque majoribus, fauce corollae latiore, lobis corollae acuminatis, antheris multo longioribus, apice styli multo majore differt. — Plate II.

Frutex usque 3 m altus, ramulis suberectis dense pilis longis reflexis siccitate ferrugineis vestitis instructus. *Stipulae* intrapetiolares basi connatae, laminis ovatis vel lanceolatis sensim acute acuminatis, extra pilis longis adscendentibus ferrugineis ornatis, intus sparse pilosis, praeditae; nodi ramulorum intra stipulas annulo pilorum adscendentium ornati. *Petioli* 1.5-2.8 cm longi, pilis longis reflexis primo densissime demum dense vestiti. *Folia* membranacea, oblongo-ovata vel oblongo-obovata, basi cordata, apice sensim longe acuminata, 12-22 cm longa, 5.5-8 cm lata; pagina superior juventute dense, deinde praecipue ad costam sed raro alibi pilis longis ornata; pagina inferior juventute densissime, deinde praecipue ad costam nervosque pilis longis vestita; costa subtus prominens, utrinsecus nervis lateralibus primariis 8-12 arcuatis prope marginibus conjunctis, subtus prominentibus instructa; rete venularum supra obscurum subtus laxe et satis obvium. *Inflorescentia* terminalis paniculato-cymosa, multiflora, dense pubescens, brevissime pedunculata, floribus exceptis usque 2 cm longa, pedicellis circiter 8 mm longis instructa. *Calyx* extra pubescens, intus glaber, tubo 1 mm longo, lobis 5, lanceolatis, acuminatis, circiter 8 mm longis basi usque 2.5 mm latis praeditus. *Corolla* punicea vel coccinea; tubus infundibuliformis circiter 40 mm longus, basi circiter 3 mm diametro, in fauce 20-25 mm diametro sensim dilatus, extra pubescens, intus cingulo circiter 6 mm alto pilorum reflexorum circiter 7 mm supra basin

ornatus, cetere glaber; lobi 5, contorti, ovati vel elliptici apice acuminati, circiter 30 mm longi et 25 mm lati, nervosi, partibus in alabastro expositis pubescentibus exceptis glabri. *Antherae* 10.5-12 mm longae, fauce corollae affixae, haud exsertae. *Stylus* circiter 50 mm longus, paulo exsertus, glaber, in partem superiorem clavatam 10 mm longam et 2.5 mm latam longitudinaliter striatam apice bifidam dilatus. *Ovarium* extra dense pubescens. *Fructus* ignotus.

British Cameroons : Kumba Division, Mile 45 from Kumba on the Mamfe Road, in secondary forest tangle, shrub to 3 m high, corolla « Azalea-pink », midrib and nerves red below, 10 Jan. 1951, *Keay* FHI 28554 (K, holotype; BR, isotype).

Cabinda : Buco Zau, in forest cleared places, a rare shrublet with rhizomatous root-stock and irregular virgate single stems of less than 1 m height, flowers a beautiful scarlet, Dec. 1916, *Gossweiler* 7245 (BM).

Observations. — 1. Gossweiler's specimen was determined by R. Good in manuscript as a new species of *Gardenia.*

2. — This is a most striking and beautiful plant which would be well worth cultivation.

9. PREUSSIODORA Keay, gen. nov.

Fructices erecti, usque 2 m alti, ramulis foliisque glabris instructi. *Stipulae* intrapetiolares, basi conjugentes, glabrae, plus minusve persistentes, laminis ovatis vel lanceolatis longe acuminatis, paleaceis, provisae. *Inflorescentiae* pauci- vel -pluri-florae, cymosae, caules terminantes. *Calyx* in lobis 5, oblanceolatis, margine ciliolatis, paleaceis, persistentibus, quam tubo brevo multo longioribus divisus. *Corollae* tubus anguste cylindricus extra glaber, intus pubescens, in lobis 5, contortis, ovatis, margine ciliolatis, abrupte expansus. *Antherae* lineares 5 sessiles in fauce corollae inclusae vel paulo exsertae. *Stylus* in partem superiorem linearo-ellipsoideum longitudinaliter striatum dilatus, quam tubus corollae paulo brevior vel longior. *Ovarium* placentis 2, parietalibus, 1-loculare vel saepius ob placentis conjugentibus 2-loculare; ovula numerosa. *Fructus* ellipsoideus longitudinaliter leviter costulatus, apice calyce persistente coronatus, exocarpo crustaceo, seminibus circiter 22, lenticulatis vel complanatis in massam unicam conglobatis instructus.

Genus adhuc monotypicus.

The pollen grains (of *Onochie* FHI 30881) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis : Grains united ± closely into tetrads (tetrad diameter about 68 μ). Individual grains 3-porate (35 × 47 μ). Exine about 2 μ thick. Sexine ± as thick as nexine, reticulate. Reticulum heterobrochate [lumina largest (about 3-4 μ) near the equator, considerably smaller towards the pole]. Muri psilate, about 1.5 μ broad, bacula indistinct. Lumina psilate to granulate. OL (lumina), (LO). Pori ± circular, about 5-7 μ in diameter provided with a conspicuous nexinous (?) margin (about 3-4 μ broad).

Preussiodora sulphurea (K. Schum.) Keay, comb. nov.

Randia sulphurea K. Schum., Engl. Bot. Jahrb., XXIII, p. 441 (1896); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931).
Randia exserta K. Schum., op. cit., XXXIII, p. 343 (1903).

Types : British Cameroons, *Preuss* 34 et 1296 (B, syntypes, presumably destroyed).
Also recorded from E. Nigeria (e.g. *Talbot* 1544) and Fernando Po (*Mann* 288).

Observations. — 1. — The genus is named in honour of (δωρον, a gift) the German botanist Preuss who collected all the specimens described by Schumann as *Randia sulphurea* and *R. exserta*.
2. — It seems probable that *Gardenia Trochainii* Sillans, Rev. Bot. Appliq., XXXIII, p. 548, t. 6 (1954) also belongs here. Unfortunately I have not been able to obtain the type specimens (*Tisserant* 693; 1412; *Sillans* 1636 : — all from Ubangi-Shari) on loan from Paris, but the original description and accompanying plate indicate that this species may be *Preussiodora*.

10. POLYCORYNE Keay, gen. nov.

Frutices scandentes, ramulis foliisque glabri instructi. *Stipulae* intrapetiolares cauducae vel subpersistentes, basi haud vel breviter connatae, laminis conspicuis oblongo-ovatis primo ciliolatis provisae. *Inflorescentiae* multi-florae paniculato-cymosae, ramulos laterales juveniles uno vel quinque jugis foliorum juvenilium munitos terminantes. *Calyx* tubo brevissimo, lobis 5 ovato-lanceolatis margine ciliolatis instructus. *Corolla* omnino glabra ante anthesim clavifor-

Polycoryne fernandensis (HIERN) KEAY: A. flowering shoot (× 2/3); B. flower bud (× 2) C. ovary and section of calyx (× 6); D. longitudinal section of flower (× 2); E. stigma (× 6); F. transverse section of ovary (diagrammatic); G. fruit (× 2/3). (A: *Scott Elliot* 4914; B-F: *Talbot* 3030; G: *Thomas* 1915.)

mis; tubus angustissime infundibuliformis quam lobi calycis multo superans; lobi 5, contorti, oblongo-rotundati quam tubus circiter triplo breviores. *Antherae* 5, lineares, sessiles, fauce corollae affixae, paulo exsertae. *Stylus* glaber, filiformis, in partem superiorem obovato-spathulatam bifidam paulo exsertam dilatus. *Ovarium* 1-loculare, placentis parietalibus 2, ovulis numerosis praeditum. *Fructus* baccatus, subglobosus, levis, exocarpa crasso, seminibus numerosis lenticulatis vel complanatis in massam unicam conglobatis instructus.

Genus adhuc monotypicus.

Derivation : πολυς, many; κορυνη, a club.

The pollen grains (of *Deighton* 3991) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis : Grains united ± closely into tetrads (tetrad diameter about 55 μ). Individual grains (3- colpoidorate ? —) 3-porate, 27 × 37 μ. Exine about 1.5 (-2) μ thick. Sexine slightly thicker than nexine, faintly reticulate. Reticulum probably slightly heterobrochate (lumina 1 μ or less). OL (lumina ?). Pori ± circular, about 3 μ in diameter, their margins distinctly incrassate, thickenings about 2 (-3) μ broad.

Polycoryne fernandensis (Hiern.) Keay, comb. nov. — Plate III.

Gardenia fernandensis Hiern in Oliv., Fl. Trop. Afr., III, p. 105 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 75 (1931).

Randia psychotrioides K. Schum., Engl. Bot. Jahrb., XXIII, p. 439 (1896).

Randia chloroleuca K. Schum., Engl. Bot. Jahrb., XXVIII, p. 62 (1899).

Type : Fernando Po, *Mann* 22 (K, holotype !).

Also recorded from Sierra Leone (e.g. *Scott Elliot* 4914 et 5184), Liberia (*Whyte* s.n.), Ivory Coast (*Roberty* 15490), Ghana (e. g. *Vigne* FH 1116), Togo (*St. Clair Thompson* FH 3705), N. Nigeria (*Dalziel* 44), E. Nigeria (e. g. *Talbot* 3030), British Cameroons (*Staudt* 445), French Cameroons (e. g. *Zenker et Staudt* 625), Gabon (*Le Testu* 1923 et 1949) and Cabinda (*Gossweiler* 8654).

Oligocodon Cunliffeae (WERNHAM) KEAY: A. flowering shoot (× 2/3); B. section of corolla (× 1); C. gynoecium and section of corolla (× 2); D. longitudinal section of ovary (× 4); E. transverse section of ovary (diagrammatic); F. fruit (× 2/3). (A-E: *Talbot* 3149; F: *Onochie* FHI 26675.)

11. OLIGOCODON Keay, gen. nov.

Frutices scandentes; ramuli glabri, saepe plus minusve tetragoni cortice papyraceo fissile obtecti. *Stipulae* interpetiolares, basi vix conjugentes, laminis ovatis vel lanceolatis, caducis instructae. *Inflorescentiae* cymosae, 3-6-florae, abbreviatae, nonnunquam caules terminantes, sed plerumque ramulos laterales multo abbreviatos foliis nodisque congestis terminantes. *Calycis* tubus brevissimus, subtruncatus, vel in lobis 5, latis, apiculatis divisus. *Corollae* pars inferior anguste tubiformis, extra glabra intus annulo piloso ornata, in parte superiore glabra late campanulata circiter septiente longiore subito expansa; lobi 5, contorti, lati, rotundati. *Antherae* 5, lineares, sessiles, fauce corollae affixae, vix vel paulo exsertae. *Stylus* glaber in partem superiorem elongato-fusiformem longitudinaliter striatam sensim dilatus, vix vel paulo exsertus; stigmae 2, ad apicem styli affixae. *Ovarium* 1-loculare, placentis parietalibus 2, ovulis numerosis praeditum. *Fructus* ellipsoideus levis, exocarpo siccitate crustaceo, seminibus numerosis lenticulatis vel complanatis in massam unicam conglobatis instructus.

Genus adhuc monotypicus.

Derivation : ολιγος, few; κωδων, a bell.

The pollen grains (of *Talbot* 3149) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis : Grains united ± closely into tetrads (tetrad diameter about 63 μ). Individual grains 3-porate, 31 × 43 μ. Exine about 1.5-2 μ thick. Sexine about as thick as nexine (?), provided with ± distinct densely spaced bacula (diameter 1 μ or less). Over the whole sexine are scattered ± spherical excrescences (2-5 μ in diameter), very loosely connected with the sexine and possibly of a perinous nature. LO (spherical excrescences), LO (bacula). Pori ± circular, about 3-4 μ in diameter, surrounded by a ± pronounced (about 2 μ broad), probably nexinous thickening.

Oligocodon Cunliffeae (Wernham) Keay, comb. nov. — Plate IV.

Gardenia Cunliffeae Wernham, Journ. Bot., LII, p. 5 (1914); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 75 (1931).

Type : E. Nigeria, *Talbot* 3149 (BM, holotype ! K, isotype !).

Also recorded from W. Nigeria (e. g. *Millen* 144) and Belgian Congo.

12. XEROMPHIS Raf., Sylva Tellur., p. 21 (1838).

Lachnosiphonium Hochst., Flora, XXV, p. 236 (1842).

Randia Linn. sect. *Ceriscus* Hook. f., in Benth. et Hook. f., Gen. Pl., II, 1, p. 88 (1873).

Ceriscus Gaertn., Fruct., I, p. 140, t. 28 (1789), nomen in syn.

This genus includes at least seven tropical African and Asian species previously included in *Randia*. Most of them are spiny and superficially resemble the American *R. mitis* Linn., the type of *Randia* Linn. The two genera may be distinguished as follows :

Xeromphis	**Randia** (sensu stricto)
Pollen grains single	Pollen grains in tetrads
Inside of corolla tube with a distinct band of long hairs	Inside of corolla tube with scattered hairs, or glabrous
Placentae in the centre on either side of a distinct septum which divides the ovary	Placentae on the walls of the ovary and usually, but not always, meeting to make the ovary spuriously 2-celled
Seed masses distinctly divided by the septum in fruit	Seeds in a single mass which comes away from the walls of the fruit

Rafinesque described the fruit of *Xeromphis* as 3-celled and Hochstetter described the ovary of *Lachnosiphonium* as 5-celled. These seem to be errors, since all the ovaries and fruits which I have examined in this group were 2-celled.

The genus *Narega* Raf. [Sylva Tellur., p. 98 (1838)] is given as a synonym of *Randia* in the Index Kewensis. The plant described and illustrated by Rheede [Hort. Malab., 4, t. 13 (1683)] and cited by Rafinesque is possibly a *Xeromphis*, but it is placed by Rafinesque among the *Melastomataceae*.

New combinations for three of the species are given here; others will have to be made eventually.

1. **Xeromphis spinosa** (Thunb.) Keay, comb. nov.

Gardenia spinosa Thunb., Diss. Gard., no. 7 (1780); Willd. Sp. Pl., I, p. 1229 (1798).

Randia spinosa (Thunb.) Blume, Bijdr., p. 981 (1826).

Gardenia spinosa Linn. f., Suppl. Pl., p. 164 (1781).

Gardenia dumetorum Retz., Obs., II, p. 14 (1781); Willd., Sp. Pl., I, p. 1229 (1798).

Randia dumetorum (Retz.) Lam., Encycl. Méth. Bot. Suppl., II, p. 829 (1811); Tab. Encycl. Méth. Bot., II, p. 227, t. 156, f. 4 (1819).

Canthium coronatum Lam., Encycl. Méth. Bot., I, p. 602 (1785).

Canthium chinense Pers., Syn. Pl., I, p. 200 (1805).

Xeromphis Retzii Raf., Sylva Tellur., p. 21 (1838).

Observations. — 1. — The type specimen of *Gardenia spinosa* Thunb. (1780) was collected at Macao, South China, by P. J. Bladh; I have seen a piece of this specimen at the British Museum (Nat. Hist.).

2. — *Gardenia dumetorum* Retz. and *G. spinosa* Linn. f., both described in 1781, were both based on specimens — quite possibly duplicates of the same gathering — collected in Madras by J. G. Konig; I have seen a specimen in the British Museum (Nat. Hist.) which is evidently an isotype of one or both of these species.

3. — Aiton [Hort. Kew, I, p. 295 (1789)] stated that Thunberg was wrong in regarding Bladh's specimen from Macao as conspecific with Konig's specimen from Madras. This view was followed by Willdenow, Lamarck and several later authors, so that the name *Randia dumetorum* (Retz.) Lam. became firmly established for the Indian plant, although plants from China have also been named *R. dumetorum*. The ovary and calyx of Konig's specimen are certainly far less hairy than those of Bladh's specimen. It appears to me, however, that there is a good deal of variation in this character, both in the specimens from India and in those from South China and neighbouring islands, and that only one species is involved. The differences in amount of indumentum are not correlated with geographical distribution. Groff, Ding and Groff [Lingnan Agric. Rev., III, p. 24 (1925)] and Merrill [Lingnan Sci. Jour., V, p. 174 (1929)] have also regarded *Randia spinosa* (Thunb.) Blume and *R. dumetorum* (Retz.) Blume as conspecific.

4. — The type species of the genus *Xeromphis* Raf. is *X. Retzii* Raf., an illegitimate new name based on *Gardenia dumetorum* Retz. This, in my view, is conspecific with *X. spinosa* (Thunb.) Keay.

2. **Xeromphis obovata** (Hochst.) Keay, comb. nov.

Lachnosiphonium obovatum Hochst., Flora, XXV, p. 238 (1842).
Randia Lachnosiphonium Hochst., l. c., p. 237 (1842), nomen provis.
Randia Kraussii Harv., Thes. Cap., p. 22, t. 33 (1859).

Type : S. Africa, *Krauss* 129 (K, isotype !).
Also in N. and S. Rhodesia, Mozambique and Nyasaland.

Observation. — This is the type species of the genus *Lachnosiphonium* Hochst.

3. **Xeromphis nilotica** (Stapf) Keay, comb. nov.

Randia nilotica Stapf, Journ. Linn. Soc., XXXVII, p. 519 (1906).
Lachnosiphonium niloticum (Stapf) Dandy in F. W. Andr., Fl. Pl. A.-E. Sud., II, p. 441, fig. 159 (1952).

Type : Ethiopia, *Kotschy* 400 (K, lectotype !).
Extends from French Niger Colony and N. Nigeria to Sudan and E. Africa.

Observation. — Stapf cited seven specimens without designating a type. I have seen all these specimens at Kew and choose *Kotschy* 400 as lectotype.

13. EUCLINIA Salisb., Parad. Lond., index sexualis et errata sub t. 93 (1808).

Randia Linn. sect. *Euclinia* DC., Prod., IV, p. 388 (1830), p.p.; Hook. f. in Benth. et Hook. f., Gen. Pl., II, 1, p. 89 (1873), p.p.

Type species : *Euclinia longiflora* Salisb.
Only two species are known; both are confined to the rain forest regions of western and central Africa.

1. **Euclinia longiflora** Salisb., l. c. (1808).

Randia longiflora Salisb., l. c., t. 93 (1808), non Lam. (1789).
Gardenia longiflora (Salisb.) Dryander in Ait, Hort. Kew., ed. 2, I, p. 368 (1810), non Ruiz et Pav. (1799).
Gardenia macrantha Schultes, Syst., V, p. 237 (1819).

Randia macrantha (Schultes) DC., Prod., IV, p. 388 (1830); Hiern in Oliv., Fl. Trop. Afr., III, p. 97 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Rothmannia macrantha (Schultes) Robyns, Fl. Sperm. Parc Nat. Alb., II, p. 341 (1947); F. W. Andrews, Fl. Pl. A.-E. Sud., II, p. 462 (1952).

Gardenia ? longifolia G. Don, Gen. Syst., III, p. 499 (1834).

Randia Bowieana Hook., Bot. Mag., t. 3409 (1835).

Rothmannia Bowieana (Hook.) Benth. in Hook., Niger Fl., p. 384 (1849).

Gardenia Devoniana Lindl., Gard. Chron., p. 663 (Oct. 1846); Lindl., Bot. Reg., XXXII, t. 63 (Nov. 1846).

Type : ex Sierra Leone, cult. Hort. Hibbert, in Herb. Banks. (BM, holotype !).

Also recorded from Portuguese Guinea (*Esp. Santo* 2159), French Guinea (*Martine* 295), Liberia (*Linder* 662), Ivory Coast (fide Chevalier, Explor. Bot., p. 320), Ghana (e.g. *Vigne* FH 1869), W. Nigeria (e.g. *Barter* 3291), E. Nigeria (*Talbot* 1672), British Cameroons (e.g. *Mildbraed* 10568), French Cameroons (e.g. *Zenker* 3559), Sudan (e.g. *Sillitoe* 399), Uganda (e.g. *Dawe* 542), Belgian Congo (e.g. *Louis* 4106) and Angola (e.g. *Welwitsch* 3105).

2. **Euclinia squamifera** (Good) Keay, comb. nov.

Gardenia squamifera Good, Journ. Bot., LXIV, Suppl. II, p. 15 (1926).

Type : Cabinda, *Gossweiler* 6696 (BM, holotype !).

Also recorded from French Cameroons (*Zenker* 4367).

14. GARDENIA Ellis, Phil. Trans. Roy. Soc., LI, 2, p. 935, t. 23 (1761); Solander, op. cit., LII, 2, pp. 654-661 (1763).

Type species : *Gardenia jasminoides* Ellis.

Numerous species in tropical and subtropical Africa, Asia and Australasia.

In West Afica I am limiting the genus to the following species : *G. sokotensis* Hutch., *G. imperialis* K. Schum., *G. nitida* Hook., *G. Vogelii* Hook. f. ex Planch., *G. aqualla* Stapf et Hutch., *G. triacantha* DC., *G. erubescens* Stapf et Hutch., *G. lutea* Fres.

and *G. ternifolia* SCHUM. et THONN. All, except one, of these species have been accepted in *Gardenia* by all botanists so there is no need to discuss them further in this paper. The exception is :

G. imperialis K. SCHUM., Engl. Bot. Jahrb., XXIII, p. 442 (1896).

Randia physophylla K. SCHUM., op. cit., XXVIII, p. 64 (1899).
Gardenia physophylla (K. SCHUM.) DE WILD., Ann. Mus. Congo, sér. V, 1, p. 81 (1904).
Rothmannia physophylla (K. SCHUM.) FAGERLIND, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).
Gardenia viscidissima S. MOORE, Journ. Linn. Soc., XXXVII, p. 158 (1905).

Type : Angola, *Mechow* 495 (B, holotype, presumably destroyed).
Also known from Senegal (fide Chevalier, Explor. Bot., p. 324), French Sudan (e.g. *Chev.* 887), Portuguese Guinea (*Esp. Santo* 2046), French Guinea (e.g. *Dalziel* 8405), Sierra Leone (e.g. *Scott Elliot* 5141), Ivory Coast (e.g. *Chevalier* 16210), Ghana (e.g. *Irvine* 2323), N. Nigeria (e.g. *Lely P.* 117), W. Nigeria (e.g. *Kennedy* 1409), E. Nigeria (e.g. *Talbot* 3616), French Cameroons (e.g. *Zenker* 1702), Belgian Congo (e.g. *Quarré* 2624), Uganda (e.g. *Dawe* 77), Tanganyika (e.g. *Burtt* 6167), Nyasaland (e.g. *Purves* 212) and N. Rhodesia (e.g. *Angus* 249).

Observation. — The corolla of this species resembles that of certain species of *Rothmannia;* it can, however, also be matched in *Gardenia.* The species agrees with *Gardenia* rather than with *Rothmannia* in the following characters : pollen grains in tetrads, young shoots glutinous, stipules sheathing, placentae 2-3, not meeting to make the ovary 2-celled.

15. MITRIOSTIGMA HOCHST., Flora, XXV, p. 235 (1842).

Type species : *Mitriostigma axillare* HOCHST.
Two species : one in S. Africa, the other in Fernando Po. The latter, which occurs in the F. W. T. A. area is :

Mitriostigma Barteri HOOK. F. ex HIERN in OLIV., Fl. Trop. Afr., III, p. 111 (1877); HOOK. F. in BENTH. et HOOK. F., Gen. Pl., II, 1, p. 90 (1873), nomen nudum; HUTCH. et DALZ., Fl. W. Trop. Afr., II, p. 72 (1931).

Randia Barteri (Hook. f. ex Hiern) K. Schum. in Engl. et Prantl, Pflanzenfam., IV, 4, p. 75 (1891).

Type : Fernando Po, *Mann* 234 (K, holotype, lectotype !)

Observations. — 1. — So far the only known specimens are the two from Fernando Po cited by Hiern. Barter's specimen is rather poor and lacks flowers so it is evident that the original description was based on *Mann* 234 which has both flowers and fruits.

2. — Schumann included the genus *Mitriostigma* in *Randia* sect. *Ceriscus*. It is, however, much closer to *Oxyanthus* than to *Randia* (sensu lato). Vegetatively *Mitriostigma* and *Oxyanthus* are very similar; the pollen grains and the fruits are also similar. The characters given in the key on p. 21 seem, however, sufficient grounds for maintaining *Mitriostigma* distinct from *Oxyanthus*.

3. — Hiern described a third species, *Mitriostigma ? subpunctatum*, which was also included in the F. W. T. A. It is undoubtedly an *Oxyanthus;* see p. 44.

16. OXYANTHUS DC., Ann. Mus. Paris, IX, p. 218 (1807).

Type species : *Oxyanthus speciosus* DC.

About 20 species; all African.

This a distinctive genus which has been widely accepted since it was first separated from *Gardenia*. Roberty, alone among recent workers, puts it back into *Gardenia*.

Two new combinations and a new species are dealt with here.

1. **Oxyanthus racemosus** (Schumach. et Thonn.) Keay, comb. nov.

Ucriana racemosa Schumach. et Thonn., Beskr. Guin. Pl., p. 107 (1827), et Kongel. Dansk. Vid. Selsk. Naturvid. et Math. Afh., III, p. 127 (1828).

Oxyanthus hirsutus DC., Prod., IV, p. 376 (1830).

Oxyanthus Thonningii Benth. in Hook., Niger Fl., p. 388 (1849).

Oxyanthus rubriflorus Hiern in Oliv., Fl. Trop. Afr., III, p. 108 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 80 (1931).

Oxyanthus ? sulcatus Hiern in Oliv., Fl. Trop. Afr., III, p. 108 (1877).

Oxyanthus speciosus Auct. non DC.; Sims, Bot. Mag., t. 1992 (1818), p.p., excl. syn. *Gardenia tubiflora* Andr.; Lindl., Coll. Bot., t. 13 (1821), p.p., excl. syn. *Gardenia tubiflora* Andr.

Oxyanthus tubiflorus Auct. non (Andr.) DC.; Hook., Bot. Mag., t. 4636 (1852), p.p., excl. syn. *Gardenia tubiflora* Andr.; Planch., Fl. des Serres, VII, p. 253, t. 737 (1852), p.p., excl. syn. *Gardenia tubiflora* Andr.; Hiern, Fl. Trop. Afr., III, p. 107 (1871), p.p., excl. syn. *Gardenia tubiflora* Andr.; Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 80 (1931).

Type : Ghana, *Thonning* (Herb. Schumach., C. holotype !)

Also recorded from Portuguese Guinea (*Esp. Santo* 2097 et 2152), French Guinea (fide Chevalier Explor. Bot. p. 325), Sierra Leone (e.g. *Afzelius* s. n.; *Deighton* 3700 et 4751), Liberia (*Baldwin* 10942 et 11956), Ivory Coast (fide Chevalier l. c.), Togo (e.g. *Warnecke* 460), W. Nigeria (e.g. *Barter* 3417), E. Nigeria (e.g. *Barter* 1794) and Angola (*Gossweiler* 5166 et 5203).

Observations. — 1. — This species has often been referred to as *Oxyanthus tubiflorus* (Andr.) DC. Prod., IV, p. 376 (1830), based on *Gardenia tubiflora* Andr., Bot. Repos., III, t. 183 (1801). Andrews' plate is of a plant grown in a hot-house at Hammersmith (London) from seed sent from Sierra Leone; I have not been successful in tracing a specimen of this plant. The plate differs from *O. racemosus* (the plant referred to as *O. tubiflorus* in the F. T. A. and F. W. T. A.) as follows : (i) stem, leaves and flowers glabrous, (ii) leaves cuneate at base, (iii) inflorescence shorter and ebracteate, (iv) calyx lobes broader. I cannot, moreover, satisfactorily match Andrews' plate with any other specimen. It is, perhaps, nearest to *O. subpunctatus* but differs in the broadly triangular calyx-lobes. Since the name *O. tubiflorus* cannot certainly be associated with any known species of *Oxyanthus* it seems best to cease from using it.

2. — *O. rubriflorus* was distinguished by Hiern on account of the « flowers red, tipped with green, about 2 inches long ». The type specimen at Kew (*Barter* 3325) is certainly *O. racemosus* (Schumach. et Thonn.) Keay, with the corollas not yet fully grown. Barter's collecting notes on the label read « *Loranthus;* flowers red, tipped with green; on *Melia Azedarach* ». The notes clearly refer to a *Loranthus* and have been wrongly associated with the *Oxyanthus* specimen. It is remarkable that both Hiern, and Hutchinson and Dalziel, should have been deceived by such an obvious error.

2. **Oxyanthus subpunctatus** (Hiern) Keay, comb. nov.

Mitriostigma ? subpunctatum Hiern in Oliv., Fl. Trop. Afr., III, p. 111 (1877); Hutch et Dalz., Fl. W. Trop. Afr., II, p. 72 (1931). *Oxyanthus tenuis* Stapf, Journ. Linn. Soc., XXXVII, p. 107 (1905); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 80 (1931).

Type : Ghana, Cape Coast, *Unknown Collector* (BM, holotype !). Also known from Sierra Leone (e.g. *Scott Elliot* 5571), Liberia (*Whyte* s.n.), Togo (*Schlechter* 12975), W. Nigeria (e.g. *Foster* 83), British Cameroons (*Ndep Enoh* Cam. 39/38) and Belgian Congo (*Robyns* 1341).

Observation. — W. Brass may possibly have been the collector of the type specimen, but the only note on the sheet is « Cape Coast ». The specimen lacks flowers, but agrees very well with more recent material from Ghana.

3. **Oxyanthus setosus** Keay, sp. nov.; ab *O. subpunctato* (Hiern) Keay, ramulis foliisque dense setosis, ab *O. uniloculare* Hiern, foliis minoribus, cymis brevioribus floribus paucioribus, lobis calycis lanceolatis brevioribus distinguendus.

Frutex usque 2.5 m altus. *Ramuli* et pilis brevibus et pilis longis patentibus, subpersistentibus, vestiti. *Stipulae* intrapetiolares basi paulo connatae, laminis ovatis longe acuminatis, 6-9 mm longis, extra setosis intus subglabris praeditae; nodi intra stipulos annulo longe piloso ornati. *Petioli* 4-7 mm longi, dense setosi. *Folia* membranacea, in vivo plus minusve bullata, oblonga vel oblongo-elliptica, basi plus minusve inaequalia, nonnunquam latere distali rotundata et latere proximali obtusata vel cuneata, apice subito acuminata, 14-22 cm longa, 5.3-10 cm lata; costa utrinsecus nervis primariis lateralibus 8-10 sub marginem obscure anastomosantibus instructa; pagina superior semper glabra, costa nervisque prominulis; pagina inferior praecipue ad costam nervosque prominentes pilis longis albidis patentibus dense vestita; rete venularum laxum, utrinque inconspicuum. *Cymae* paulo supra nodos ad lateribus alternantibus disposita; pedunculus setosus, usque 5 mm longus; bractae ovato-lanceolatae, setosae, usque 2.5 mm longae, persistentes; flores usque 12, brevissime pedicellati, dense congesti. *Calyx* glaber vel sparse pubescens, tubo circiter 1.5 mm longo, lobis lanceolatis acuminatis erectis 1.5-2.5 mm longis instructus. *Corollae* tubus elongato-cylindricus, ad anthesin circiter 2 mm diametro et 16-17 cm

longus, extra glaberrimus, intus basin versus laxe villosus; lobi 5, contorti, lanceolati, 2.5-3 cm longi, usque 3.75 mm lati, glabri. *Antherae* 5, lanceolatae, acuminatae, circiter 5 mm longae, basin versus per filamentis dorsalibus brevissimis ad apicem tubi corollae affixae. *Stylus* glaber, tubus corollae circiter 5 mm superans, in apicem angustissime truncato-clavatum vix costulatum dilatus, stigma siccitate fusca, depresso-capitata, coronatus; discus annularis, carnosus, fere 1 mm altus. *Ovarium* extra glabrum vel sparsissime pubescens, 2-loculare, vel in partem 1-loculare, placentis parietalibus, seminis numerosis instructum. *Fructus* ellipsoideus, glaber, circiter 2.7 cm longus et 2 cm diametro.

British Cameroons : Kumba Division, South Bakundu Forest Reserve, Banga, 11 Mar. 1948, *Brenan* 9283 (K, holotype; B, P, BR, FHI, isotypes). About 2 miles from Banga, towards Pete River, 15 Mar. 1948, *E. W. Jones* et *P. W. Richards* in Herb. *Brenan* 9438 (K).

Observation. — According to the collecting notes the calyx is pale green, the corolla tube is greenish-white below but white near the apex, the corolla lobes are white and somewhat reflexed, and the stigma and style-apex are also white.

17. PSEUDOGARDENIA Keay, gen. nov.

Frutices erecti vel subscandentes ramulis foliisque hirsutis instructi. *Stipulae* intrapetiolares, plus minusve persistentes conjugentes, laminis triangularibus vel lanceolatis longe acuminatis provisae; nodi ramulorum intra stipulas annulo hirsuto ornati. *Flores* solitarii, ramulos laterales tribus vel sex jugis foliorum munitos terminantes. *Calycis* tubus infundibuliformis, truncatus sed sub apicem lobis 5, exteris, ovatis vel ellipticis, imbricatis, praeditus. *Corolla* infundibuliformis, sensim expansa, extra dense sericea, tubo intus basi pubescente in fauce intus glabro vel puberulo, et lobis 5 contortis, latis, intus dense puberulis, instructa. *Antherae* 5, lineares, 2-loculares, sessiles, fauce corollae affixae, dimidiis suis longitudinibus exsertae. *Stylus* hirsutus, in partem superiorem fusiformem glabram anguste longitudinaliter alatam dilatus, breviter vel vix exsertus; stigmae 2, subglobosae ad apicem styli affixae. *Ovarium* 10-costatum, extra hirsutus, 1-lobulare; ovula numerosa, complanata, in placentis 2, parietalibus, immersa. *Fructus* baccatus, obovoideo-cylindricus, 10-costatus, apice calyce persistente coro-

natus, exocarpo siccitate crustaceo, seminibus numerosis lenticulatis vel complanatis in massam unicam conglobatis instructus.

Genus adhuc monotypicus.

The pollen grains (of *Onochie* FHI 33156) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis : Grains 3-colpoidorate (brevicolpate) — 3-porate (apertures in many grains rather asymmetrically arranged), oblate spheroidal (-prolate spheroidal), in average 48 × 51 μ. Amb ± circular with protruding pori margins. Exine about 3 μ thick. Sexine as thick as nexine or thicker, reticulate. Reticulum ± heterobrochate (largest lumina about 4 μ in diameter), polybrochate (in radio-symmetrical grains 20 and more brochi per mesaperturial amb). Muri straight, psilate, ± 1 μ broad, simplibaculate (bacula very distinct, about 0.75-1 μ in diameter supporting a very thin 'ectomurus' which locally seems to be entirely lacking), Lumina psilate. OL (lumina), LO (bacula). Colpoids short, sometimes ± lacking. Ora ± circular (about 4-6 μ in diameter) surrounded by a nexinous (?) incrassate margin about 4-6 μ broad. The thickening causes the ora margins both to protrude and intrude in relation to the general surface of the grains.

Pseudogardenia Kalbreyeri (Hiern) Keay, comb. nov.

Gardenia Kalbreyeri Hiern, Journ. Bot., XVI, p. 97, t. 195 (1878); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 73 (1931).

Gardenia Gossleriana J. Braun et K. Schum., Mittl. Deutsch. Schutzgebiet, II, p. 174 (1889).

Randia purpureo-maculata C. H. Wright, Kew Bull., p. 123 (1901).

Type : E. Nigeria, *Kalbreyer* 212 (BM, holotype !).

Also recorded from W. Nigeria (e. g. *Ross* 239), British Cameroons (e. g. *Rudatis* 56), French Cameroons (e. g. *Braun* 86), Spanish Guinea (*Tessmann* 796), Gabon (e.g. *Klaine* 389), Belgian Congo (e. g. *Leemans* 266) and Cabinda (*Gossweiler* s. n.).

Observation. — Differs from *Gardenia* in the stipules, the position of flowers and method of branching, and in the pollen grains (united in tetrads in *Gardenia,* single in *Pseudogardenia*). The corolla is similar to several species of *Rothmannia,* but the calyx is quite distinct; see key to genera.

18. ROTHMANNIA THUNB., Vet. Acad. Handl. Stockh., XXXVII, p. 65 (1776); BENTH. in HOOK., Niger Fl., p. 383 (1849), p.p., excl. *R. Bowieana* (HOOK.) BENTH.; FAGERLIND, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943), p.p.

Randia LINN sect. *Euclinia* DC., Prod., IV, p. 388 (1830), p.p.; HOOK. F. in BENTH. et HOOK. F., Gen. Pl., II, 1, p. 89 (1873), p. p., excl. *R. macrantha* (SCHULTES) DC. et *R. Bowieana* HOOK.; K. SCHUM. in ENGL. et PRANTL, Pflanzenfam., IV, 4, p. 76 (1897).

Gardenia ELLIS sect. *Rothmannia* (THUNB.) ENDL., Gen. Pl., p. 562 (1838); HOOK. F., l. c., p. 90 (1873), p.p., excl. *G. Vogelii* HOOK. F.; K. SCHUM., l. c., p. 77 (1897), p.p., excl. *G. Gossleriana* J. BRAUN. et K. SCHUM. et *G. tentaculata* HOOK. F.

Type species : *Rothmannia capensis* THUNB.

Probably about 24 species, mostly in Africa, but also in tropical Asia; the American species referred to this genus by Fagerlind, and by Hooker and Schumann to the above sections of *Randia* and *Gardenia,* require further study.

Some of the species, which I and others have assigned to this genus, have the corolla lobes overlapping to the right and others to the left. Corolla lobes overlapping to the right are extremely rare in the *Gardenieae* but they are found in the type species of *Rothmannia (R. capensis)* and in a few other species, some of which are not in other respects closely related to *R. capensis.* Although I do not think it is advisable to separate into a new genus, on this character alone, the species with the corolla lobes overlapping to the left, I am conscious that *Rothmannia* as I am leaving for the present is rather heterogenous. The Asiatic and American species require much more study than I have been able to give them, so in the circumstances I do not feel justified in dividing *Rothmannia* into separate genera, subgenera or sections at this stage. The key which follows applies only to the African species.

Key to African species of *Rothmannia*.

A. Corolla lobes overlapping to the right; flowers always solitary :

I. Flowers normally 8-merous; calyx tube 3-5 mm long, not split, setose-pilose outside, lobes 20-45 mm long; corolla tube setose-pilose outside, 14-18 cm long, gradually expanded towards top, lobes acute; fruit cylindrical-club-shaped; stem and leaves hirsute . . . 1. *R. octomera.*

II. Flowers normally 5-merous; calyx tube sometimes split :

a. Calyx tube 4-10 mm long, not or only seldom split; corolla glabrous outside; stem and leaves mostly glabrous :

1. Corolla tube 2-3 cm long, consisting of a narrow lower portion (0.7-1 cm long) and a rather abruptly expanded upper portion (1.3-2 cm long); lobes broadly ovate, apiculate, 1-1.8 cm long; leaves narrowly elliptic, membranous . . . . . 2. *R. Annae.*

2. Corolla tube 2.5-8.5 cm long, lobes ovate or ovate-lanceolate, acute, 1.3-2.8 cm long; leaves coriaceous :

α. Corolla lobes about half as long as the upper expanded (3-5.5 cm long) portion of the tube; calyx lobes 1-10 mm, tube 4-8 mm long . . . . . 3. *R. Fischeri.*

β. Corolla lobes about as long as the upper expanded (1.5-3 cm long) portion of the tube; calyx lobes 10-20 mm, tube 6-10 mm long . . . . . 4. *R. capensis.*

b. Calyx tube 10-55 mm long, usually split down one side, lobes 3-55 mm long; corolla glabrous or pilose outside; stem and leaves pubescent or hirsute :

1. Corolla glabrous outside, tube about 6 cm long; calyx setose-pilose outside, tube about 20 mm, lobes about 15 mm long . . . . . 5. *R. Liebrechtsiana.*

2. Corolla more or less densely pilose outside :

α. Calyx tube 10-15 mm long, setose-pubescent outside, lobes filiform 3-10 mm long; corolla pilose outside, tube 4.5-6.5 cm, lobes 1.5-3 cm long; fruits ellipsoid or subglobose, not ridged but with 10-12 longitudinal lines . 6. *R. urcelliformis.*

β. Calyx tube 25-55 mm long, lobes linear or linear-lanceolate, 15-55 mm long :

* Calyx setose-pubescent outside, tube 25-40 mm long, markedly spathaceous, lobes 30-40 mm long; corolla densely shaggy villous outside, tube 13-17 cm long; fruits ellipsoid with 5 well-marked longitudinally grooved ridges . . . . . 7. *R. hispida.*

** Calyx glabrous outside, tube 30-55 mm long, not spathaceous, lobes 15-55 mm long; corolla densely pilose outside, tube 16-20 cm long . . . . . 8. *R. lateriflora.*

B. Corolla lobes overlapping to the left; flowers normally 5-merous, solitary or 2-several together; calyx tube rarely split (but see *longiflora* and *globosa*) :

I. Corolla glabrous outside, consisting of a long narrow lower portion (11-18 cm long) and abruptly expanded upper portion (1.5-3 cm long), lobes 2-3 cm long; calyx tube 5-angled, glabrous, 7-9 mm long, teeth 1-2 mm long; flowers normally in pairs; fruits 15-20 cm diam., woody, taking several years to grow . . . . . 9. *R. Lujae.*

II. Corolla appressed-puberulous, densely pubescent, tomentellous or velutinous outside, sometimes partially glabrescent; flowers solitary (except in *Engleriana* and *globosa*); fruits up to 15 cm long :

a. Flowers always solitary, terminal or appearing laterally on much abbreviated shoots :

1. Calyx glabrous (or sometimes puberulous in *macrocarpa*) outside, teeth usually much shorter than tube; if calyx puberulous then leaves also puberulous, densely so when young :

α. Lower narrow portion of corolla much longer than the gradually expanded funnel-shaped upper part :

* Leaves up to 13 cm long and 6.5 cm broad; fruits 4-5 cm diam.; corolla appressed puberulous outside, densely so at first, but often sparsely so at anthesis, tube 12-25 cm, lobes 1.5-4 cm long :

† Leaves glabrous, except for tufts in nerve-axils . . . . . 10. *R. longiflora.*

†† Leaves densely spreading pilose . 11. *R. mayumbensis.*

** Leaves 20-40 cm long and 7-21.5 cm broad; fruits up to 15 cm long; corolla densely and persistently brown-tomentellous outside :

† Petioles up to 5 mm long; leaves obovate-oblanceolate, with 7-10 main lateral nerves on each side of midrib; corolla tube 19-23 cm, lobes 4.5-5 cm long; anthers about 3 cm long, reaching to the sinuses between the corolla lobes . . . 12. *R. megalostigma.*

†† Petioles 12-45 mm long; leaves elliptic, with 11-15 main lateral nerves on each side of midrib; corolla tube 23-27 cm, lobes about 4 cm long; anthers about 5 cm long, included in corolla tube well below the sinuses of the lobes . . . . . 13. *R. macrocarpa.*

β. Lower narrow portion (1-1.2 cm long) of corolla much shorter than the abruptly expanded campanulate or cylindrical (3-5.5 cm long) upper portion; corolla velutinous outside; leaves glabrous . . . . . 17. *R. manganjae.*

2. Calyx densely hairy outside, lobes often longer than tube; corolla densely velutinous outside, upper portion funnel-shaped; leaves glabrous except for the rusty-pubescent midrib of young leaves :

α. Ovary and fruit 5-ridged, the latter ellipsoid; calyx tube finely silvery velutinous above, sparsely so below, lobes 3-15 mm long; corolla tube shortly velutinous outside, 2.25 cm long, very gradually widened and only 2.5 cm wide at mouth; venation of leaves very obscure beneath . . . . . 14. *R. Talbotii.*

β. Ovary 10-ridged; fruit 10-ridged or nearly smooth, subglobose; calyx tube densely and evenly brown velutinous inside, lobes 15-66 mm long; corolla tube long-velutinous outside, 3-7 cm long, with much expanded upper portion; venation of leaves obvious beneath . . . 15. *R. Whitfieldii.*

b. Flowers 2-10 in congested cymes; lower narrow portion of corolla much shorter than the upper more or less abruptly expanded campanulate or cylindrical portion :

1. Calyx tube 1.5-2 mm long, splitting down two sides, lobes 1-1.5 mm long; corolla pubescent outside, lower narrow portion about 0.2 cm long, campanulate upper portion 1.3-1.5 cm long; leaves usually narrowly elliptic or oblanceolate, up to 7 cm long and 3 cm broad, glabrous, except in axils of nerves . . . . . 16. *R. globosa.*

2. Calyx tube 5-10 mm long, not split, lobes 5-15 mm long; corolla long-velutinous outside, lower narrow portion 1.8-2.2 cm long, upper campanulate or cylindrical portion 2.8-3.5 cm long; leaves densely pubescent beneath when young, or nearly glabrous, up to 30 cm long and 13 cm broad; cymes borne at ends of rather long axillary shoots . . . . 18. *R. Engleriana.*

1. **Rothmannia octomera** (Hook.) Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Gardenia octomera Hook., Bot. Mag., t. 5410 (1863).
Randia octomera (Hook.) Hook. f. in Benth. et Hook. f., Gen. Pl., II, 1, p. 89 (1873); Hiern in Oliv., Fl. Trop. Afr., III, p. 98 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).
Randia Galtonii Wernham, Journ. Bot., LII, p. 6 (1914).
Randia Cunliffeae Wernham, l. c. (1914).

Type : Fernando Po, (cult. Kew), *Mann* s.n. (K, holotype !)
Also in E. Nigeria (e.g. *Thomson* 140), British Cameroons (*Brenan* 9318), French Cameroons (e.g. *Bates* 1376), Angola (e.g. *Gossweiler* 8171) and Belgian Congo (e.g. *Louis* 639).

2. **Rothmannia Annae** (E. P. Wright) Keay, comb. nov.

Gardenia Annae E. P. Wright, Trans. Roy. Irish Acad., XXIV, p. 575, t. 28 (1869).

Type : Seychelles, *E. P. Wright* 38 (K, isotype !).

3. **Rothmannia Fischeri** (K. Schum.) Bullock, Ann. Transvaal Mus., XVII, p. 224 (1937).

Randia Fischeri K. Schum. in Engl., Pflanzenw. Ost-Afr. C, p. 380 (1895).
Gardenia Annae E. P. Wricht var. *moramballae* Hiern in Oliv., Fl. Trop. Afr., III, p. 103 (1877).

Type : Tanganyika, *Fischer* 318 (K, isosyntype !).
Also known in Kenya (e.g. *Dale* 3787), N. Rhodesia (e.g. *Angus* 733), S. Rhodesia (e. g. *Eyles* 7652), Nyasaland (e. g. *Waller* s.n.), Mozambique (e.g. *Dawe* 469) and Transvaal (e.g. *Codd* et *Dyer* 4551).

4. **Rothmannia capensis** Thunb, Vet. Acad. Handl. Stockh., XXXVII, p. 67, t. 2 (1776).

Gardenia Rothmannia Linn. f., Suppl. Pl., p. 165 (1781).
Randia bellatula K. Schum., Engl. Bot. Jahrb., XXXIII, p. 342 (1903).

Type : S. Africa *Thunberg* (UPS, holotype).

Known from Cape Province (e.g.*MacOwan* 2820), Natal (e.g. *Gerrard* 1357), Transvaal (e.g. *Hutchinson* 2572) and Bechuanaland (*Hillary* et *Robertson 546)*.

5. **Rothmannia Liebrechtsiana** (De Wild. et Th. Dur.) Keay, comb. nov.

Randia Liebrechtsiana De Wild. et Th. Dur., Bull. Soc. Roy. Bot. Belg., XXXVIII, p. 193 (1899).

Gardenia calungensis Good, Journ. Bot., LXIV, Suppl. II, p. 15 (1926).

Gardenia Letestui Pellegr., Bull. Soc. Bot. Fr., LXXXIII, p. 316 (1936).

Type : Belgian Congo, *Dewèvre* 826 (BR, holotype !).

Also known in Gabon (*Le Testu* 1430) and Angola (*Gossweiler* 4740 et 8951).

6. **Rothmannia urcelliformis** (Schweinf. ex Hiern) Bullock ex Robyns, Fl. Sperm. Parc Nat. Alb., p. 340 (1947).

Gardenia urcelliformis Schweinf. ex Hiern in Oliv., Fl. Trop. Afr., III, p. 104 (1877).

Randia urcelliformis (Schweinf. ex Hiern) Eggeling, Indig. Trees Uganda, p. 202 (1940).

Gardenia tigrina Welw. ex Hiern, Cat. Welw. Afr. Pl., I, p. 462 (1898).

Randia stenophylla K. Krause, Engl. Bot. Jahrb., XLIII, p. 140 (1909); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Randia spathicalyx De Wild., Ann. Mus. Congo, sér. V, 3, p. 287 (1910).

Randia Chevalieri Aubrév., Fl. For. C. Iv., III, p. 244 (1936), descr. gallice tantum.

Rothmannia arcuata Bremek. in Exell, Suppl. Cat. Vasc. Pl. S. Tomé, p. 23 (1956).

Type : Belgian Congo, *Schweinfurth* 3034 (K, holotype !).

Also known from French Guinea (*Roberty* 16472), Sierra Leone (e.g. *Scott Elliot* 4673), Liberia (*Baldwin* 10246), Ivory Coast (e.g. *Aubréville* 987), Ghana (e.g. *Johnson* 555), Togo (e.g. *St. Clair Thompson* FH 3689), Dahomey (*Chevalier* 22836; 22932; 23696 — not seen), W. Nigeria (e.g. *Thomas* 2181), British Cameroons (e.g. *Johnstone* 18/31), S. Tomé (*Esp. Santo* 120), Ubangi-Shari

(*Tisserant* 3726), Sudan (e.g. *Smith* 37), Ethiopia (*Pichi-Sermolli* 2214), Kenya (e.g. *Dale* 2394), Tanganyika (e.g. *Burtt* 6565), Uganda (e.g. *Eggeling* 2770), Angola (e.g. *Welwitsch* 3098), S. Rhodesia (e.g. *Wild* 18183) and Mozambique (e.g. *Swynnerton* 10*a*).

Observation. — *Randia violascens* HIERN, Cat. Welw. Afr. Pl., I, p. 459 (1898) is probably a hairy form or variety of *Rothmannia urcelliformis*.

7. **Rothmannia hispida** (K. SCHUM.) FAGERLIND, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Randia hispida K. SCHUM., Engl. Bot. Jahrb., XXIII, p. 437 (1896); HUTCH. et DALZ., Fl. W. Trop. Afr., II, p. 78 (1931).
Randia Pynaertii DE WILD., Ann. Mus. Congo, sér. V, 2, p. 164 (1907).
Gardenia spathicalyx K. SCHUM. ex WERNHAM, Journ. Bot., LVII, p. 280 (1919); Cat. Talb. Nig. Pl., p. 131 (1913), nomen nudum.

Types : French Cameroons, *Zenker* 426 (K, isosyntype !), *Zenker* et *Staudt* 112 (K, BM, isosyntypes !).
Also known from French Guinea (*Schnell* 4267), Liberia (e.g. *Linder* 785), Ivory Coast (e.g. *Chevalier* 21261), Ghana (e.g. *Vigne* FH 1481), W. Nigeria (e.g. *Kennedy* 724), E. Nigeria (e.g. *Keay* FHI 28204), British Cameroons (e.g. *Ndep Enoh* 8), Cabinda (e.g. *Gossweiler* 6674) and Belgian Congo (e.g. *Pynaert* 310, *Sapin* s.n.).

8. **Rothmannia lateriflora** (K. SCHUM.) KEAY, comb. nov.

Gardenia lateriflora K. SCHUM., Engl. Bot. Jahrb., XXIII, p. 442 (1896).
Randia Bruneelii DE WILD., Ann. Mus. Congo, sér. V, 2, p. 159 (1907).
Gardenia nigrificans WERNHAM, Journ. Bot., LVII, p. 342 (1919).

Type : Gabon, *Soyaux* 339 (K, P, isosyntypes !).
Also known from French Cameroons (e.g. *Zenker* 3501), Spanish Guinea (*Tessmann* 158), Belgian Congo (e.g. *Louis* 8655) and Cabinda (*Gossweiler* 7732).

9. **Rothmannia Lujae** (De Wild.) Keay, comb. nov.

Randia Lujae De Wild., Compt. Rend. Acad. Sci. Paris, CXXXVIII, p. 913 (1904); Notices Pl. Utiles Congo, p. 283 (1904); Pl. Nov. Hort. Then., II, t. 92 (1910).

Randia coriacea K. Schum. ex Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931); Kennedy, For. Fl. S. Nig., p. 211 (1936); non Benth. (1849).

Rothmannia coriacea Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Rothmannia giganthrophaera Fagerlind, l. c. (1943), nomen nudum.

Type : Belgian Congo, *Luja* s.n. (BR, holotype !).

Also occurs in W. Nigeria (e.g. *Kennedy* 1625), E. Nigeria (e.g. *King-Church* 48), French Cameroons (e.g. *Mildbraed* 7782), Spanish Guinea (*Mann* 1744) and Cabinda (*Gossweiler* 7714).

10. **Rothmannia longiflora** Salisb., Parad. Lond., t. 65 (1807).

Randia longiflora (Salisb.) Dur. et Schinz, Ét Fl. Congo, I, p. 159 (1896); nec Lam. (1789), nec Salisb. (1807).

Randia maculata DC., Prod., IV, p. 388 (1830); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Rothmannia maculata (DC) Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Gardenia speciosa A. Rich., Mém. Soc. Hist. Nat. Paris, V, p. 240 (1834).

Gardenia Stanleyana Hook. ex Lindl., Bot. Reg., XXXI, t. 47 (1845).

Rothmannia Stanleyana (Hook. ex Lindl.) Hook. ex Benth. in Hook., Niger Fl., p. 383 (1849); Fagerlind, l. c., p. 40 (1943).

Randia Stanleyana (Hook. ex Lindl.) Walp., Ann., II, p. 794 (1851-52).

Randia Sapini De Wild., Comp. du Kasai, p. 419 (1910).

Randia spathacea De Wild., Ann. Mus. Congo, sér. V, 3, p. 287 (1910).

Randia Thomasii Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Type : Ghana, *Brass* s.n. (BM, paratype !).

Known also from Portuguese Guinea (*Esp. Santo* 190), French Guinea (*Pobéguin* 2197), Sierra Leone (e.g. *Whitfield* s.n.), Libe-

ria (e.g. *Baldwin* 10071), Ivory Coast (e.g. *Roberty* 15740), Togo (e.g. *Warnecke* 472), Dahomey (e.g. *Le Testu* 101), N. Nigeria (*Barter* s.n.), W. Nigeria (e.g. *Ejiofor* FHI 23632), E. Nigeria (e.g. *Talbot* 182), British Cameroons (e.g. *Rudatis* 51), Fernando Po (*Mann* 178), French Cameroons (e.g. *Zenker* 2523), Belgian Congo (e.g. *Seret* 794), Sudan (*Snowden* 1687), Uganda (e.g. *Chandler* 2015) and Angola (e.g. *Welwitsch* 3095).

11. **Rothmannia mayumbensis** (Good) Keay, comb. nov.

Randia mayumbensis Good, Journ. Bot., LXIV, Suppl. 2, p. 13 (1926).

Type : Cabinda, *Gossweiler* 6874 (BM, holotype ! K, isotype !). Also known from Gabon (*Soyaux* 364).

12. **Rothmannia megalostigma** (Wernham) Keay, comb. nov.

Randia megalostigma Wernham, Journ. Bot., LVII, p. 279 (1919).

Randia Lane-Poolei Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931); Aubréville, Fl. For. C. Iv., III, p. 244, t. 339 B (1936).

Types : French Cameroons, *Bates* 1171 et 1275 (BM, syntypes !).

Also occurs in Sierra Leone (e.g. *Lane-Poole* 309), Liberia (e.g. *Linder* 967), Ivory Coast (fide Aubréville l.c.), Ghana (e.g. *Vigne* FH 4837), W. Nigeria (e.g. *Brenan* et *Onochie* 9011), British Cameroons (*Latilo* et *Daramola* FHI 34453) and Belgian Congo (e.g. *Ghesquière* 2769).

Observation. — *Schweinfurth* 3486 (K) from Monbuttu Land (Belgian Congo), the type of *Randia munsae* Schweinf. et Hiern in Oliv., Fl. Trop. Afr., III, p. 99 (1877), consists of a field sketch and a single imperfect leaf. The drawing shows a corolla inserted into a what certainly looks like the spathe of an aroid. Hiern distinguishes this species in his key solely on the supposedly spathaceous calyx. As the description is based on these two entirely discordant elements and as it is not possible to select from these a satisfactory type I reject the name *Randia munsae* Schweinf. ex Hiern in accordance with Art. 76 of the International Code of Botanical Nomenclature (1952). The leaf, and possibly the drawing of the corolla, may be conspecific with *R. megalostigma*.

13. **Rothmannia macrocarpa** (Hiern) Keay, comb. nov.

Randia macrocarpa Hiern in Oliv., Fl. Trop. Afr., III, p. 97 (1877).

Randia myrmecophyla De Wild., Ann. Mus. Congo, sér. V, 2, p. 160 (1907), incl. vars.

Type : Spanish Guinea, *Mann* 1754 (K, holotype !).

Also known in Belgian Congo (e.g. *Laurent* 1614, 1616, 1617; *Pynaert* 445).

Observations. — 1. — The type specimens of *Rothmannia macrocarpa* and of *Randia myrmecophyla* var. *glabra* De Wild. are practically glabrous on the calyx and undersurface of the leaves. In *Randia myrmecophyla* var. *typica* De Wild., on the other hand, these parts are quite densely puberulous; var. *subglabra* De Wild., as its name implies, is intermediate.

2. — The branchlets of this species are often swollen and harbour ants.

14. **Rothmannia Talbotii** (Wernham) Keay, comb. nov.

Randia Talbotii Wernham, Cat. Talb. Nig. Pl., p. 45 (1913); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Randia tubaeformis Pellegr., Bull. Soc. Bot. Fr., LXXXII, p. 466 (1936).

Type : E. Nigeria, *Talbot* 217 (BM, holotype !).

Also occurs in British Cameroons (*Johnstone* 147/31), French Cameroons (*Zenker* 2553), Gabon (e.g. *Soyaux* 195 and *Le Testu* 2014) and Cabinda (*Gossweiler* 7733).

15. **Rothmannia Whitfieldii** (Lindl.) Dandy in F. W. Andr., Fl. Pl. A.-E. Sud., II, p. 461, fig. 165 (1952).

Gardenia Whitfieldii Lindl., Bot. Reg., XXXI, sub t. 47 (1845).

Gardenia malleifera Hook., Bot. Mag., t. 4307 (1847).

Rothmannia malleifera (Hook.) Hook. ex Benth. in Hook., Niger Fl., p. 383 (1849).

Randia malleifera (Hook.) Hook. f. in Benth. et Hook. f., Gen. Pl., II, 1, p. 89 (1873); Hiern in Oliv., Fl. Trop. Afr., III, p. 98 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Randia malleiflora Walp., Ann., II, p. 795 (1851-52).

Randia macrosiphon K. Schum. ex Engl., Abh. Preuss. Akad. Wiss., p. 28 (1894); Engl., Pflanzenw. Ost-Afr. C, p. 381, t. 44 (1895).

Randia Eetveldeana De Wild. et Th. Dur., Bull. Soc. Roy. Bot. Belg., XXXVIII, p. 194 (1899).

Rothmannia Eetveldeana (De Wild. et Th. Dur.) Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Randia Cuvelierana De Wild., Ann. Mus. Congo, sér. V, 1, p. 79 (1903).

Randia Stolzii K. Schum. et K. Krause, Engl. Bot. Jahrb., XXXIX, p. 526 (1907).

Randia Homblei De Wild., Fedde Rep. XIII, p. 139 (1914).

Type : Sierra Leone, *Whitfield* (BM, holotype ! K, isotype !).

Also known from Senegal (*Chevalier* 2099), French Sudan (*Chevalier* 505), Portuguese Guinea (*Esp. Santo* 1854), French Guinea (e.g. *Heudelot* 809), Liberia (e.g. *Cooper* 450), Ivory Coast (e.g. *Aubréville* 2124, not seen), Ghana (e.g. *Dalziel* 36), N. Nigeria (*Keay* FHI 21661), W. Nigeria (e.g. *Barter* 3367), E. Nigeria (e.g. *Talbot* 3697), British Cameroons (e.g. *Ledermann* 5797), French Cameroons (e.g. *Zenker* 1638), Spanish Guinea (*Tessmann* 166), Gabon (*Mann* 942), Belgian Congo (e.g. *Bequaert* 2465), Ubangi-Shari (e.g. *Chevalier* 6526), Sudan (e.g. *Schweinfurth* 2706), Kenya (e.g. *Graham* 1984), Tanganyika (e.g. *Holst* 3179), Uganda (e.g. *A. S. Thomas* 4038), N. Rhodesia (e.g. *Trapnell* 1919) and Angola (e.g. *Gossweiler* 620).

16. **Rothmannia globosa** (Hochst.) Keay, comb. nov.

Gardenia globosa Hochst., Flora, XXV, p. 237 (1842).

Type : S. Africa, Natal, *Krauss* 467 (BM, isotype !).

Also found in Transvaal (*Hutchinson* et *Gillett* 3219).

17. **Rothmannia manganjae** (Hiern) Keay, comb. nov.

Gardenia manganjae Hiern in Oliv., Fl. Trop. Afr., III, p. 103 (1877).

Randia Buchananii Oliv., Hook. Ic. Pl., t. 1356 (1881).

Rothmannia Buchananii (Oliv.) Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Randia fratrum K. Krause, Notizbl. Bot. Gart. Berlin, X, p. 604 (1929).

Rothmannia fratrum (K. Krause) Fagerlind, l. c. (1943).

Rothmannia Fischeri Auct. non (K. Schum.) Bullock; Bullock, Mem. N. Y. Bot. Gard., VIII, p. 450 (1954), p.p., quoad *Brass* 17832 et 17881.

Type : Nyasaland, *C. J. Meller* s.n. (K, holotype !).

Also known from Kenya (e.g. *Fries* 1631) and Mozambique (*Gomes e Sousa* 4261).

18. **Rothmannia Engleriana** (K. Schum.) Keay, comb. nov.

Randia Engleriana K. Schum. in Engl. et Prantl, Pflanzenfam., IV, 4, p. 76, fig. 27 (1891); in Engl., Pflanzenw. Ost-Afr. C, p. 380 (1895); Engl. Bot. Jahrb., XXIII, p. 436 (1896).

Randia Kuhniana F. Hoffm. et K. Schum. in Engl., Pflanzenw. Ost-Afr. C, p. 380 (1895).

Rothmannia Kuhniana (F. Hoffm. et K. Schum.) Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Randia terniflora Ficalho et Hiern, Cat. Welw. Afr. Pl., II, p. 459 (1898).

Randia Lemairei De Wild., Ann. Mus. Congo, sér. IV, 1, p. 155, t. 39 (1903).

Randia Lacourtiana De Wild., Comp. du Kasai, p. 418 (1910).

Randia katentaniae De Wild., Fedde Rep., XIII, p. 140 (1914).

Type : Angola, *Mechow* 347 (B, holotype).

Also known from Belgian Congo (e.g. *Kassner* 2036), N. Rhodesia (e.g. *Michelmore* 380) and Tanganyika (e.g. *Greenway* 3405).

19. AMARALIA Welw. ex Hook. f. in Benth. et Hook. f., Gen. Pl., II, 1, p. 90 (1873); Wernham, Journ. Bot., LV, p. 1 (1917).

Sherbournia G. Don ex Hua, Bull. Soc. Hist. Nat. Autun, XIV, p. 389 (1901); G. Don in Loud., Encycl. Pl., II, Add. Suppl., p. 1322 (1855), nomen nudum.

Type species : *Amaralia bignoniiflora* (Welw.) Hiern.

Probably about 12 species, all in tropical Africa.

Wernham took the leading character of this genus to be the « large, foliaceous and dextrorsely contorted » calyx-lobes. All but two of his ten species were keyed out as climbing shrubs; his two

erect trees or shrubs were *Amaralia penduliflora* (K. Schum.) Wernham and *A. Buntingii* Wernham. I have seen the type specimen (*Bunting* s.n.) of the latter species and I am satisfied that it is *A. bignoniiflora,* a scandent shrub or liane. The E. African *A. penduliflora* (based on *Randia penduliflora* K. Schum.) differs from *Amaralia* in its arborescent habit, general facies and the cymes borne at alternate nodes, and should, I believe, be referred to the genus *Porterandia*. The calyx lobes in this species and in certain Asiatic species of *Porterandia* seem to be « pinched » together and only secondarily contorted in bud; in other species of *Porterandia* the calyx teeth are so short that this character cannot be seen.

The calyx lobes of *Amaralia* are, I believe, especially distinctive because they overlap to the right, whereas the corolla lobes overlap to the left; their size is a matter of only specific importance.

Wernham's paper on *Amaralia* concludes with an extraordinary dissertation on « Amaralioid species of *Randia* », under which heading he classified seven African species. He admitted that these species closely resembled *Amaralia* — « particularly in the climbing habit, the stipules, the shape and venation of the leaves, the shape and indumentum of the corolla, and the shape and surface of the fruit ». Apart from three species which I transfer to *Porterandia,* the rest of Wernham's « Amaralioid species of *Randia* » differ from *Amaralia* only in the shorter calyx lobes. Careful examination of young buds shows, however, that even in these species the calyx lobes are contorted and overlap to the right. Moreover, a narrow glabrous margin which was *under* the adjoining lobe in bud can often be seen even at anthesis on the *left* side of each calyx lobe.

Prof. Erdtman tells me that the pollen grains of *Amaralia Zenkeri* (Hua) Wernham appear to be remarkable among the genera of *Rubiaceae* treated in this paper, and that *Randia streptocaulon* K. Schum., one of Wernham's Amaralioid species, has similar pollen.

I have therefore no hesitation in transferring to *Amaralia* the following « Amaralioid species of *Randia* » which I have studied for the F. W. T. A. Further study may show that other species should be similarly transferred.

1. **Amaralia hapalophylla** (Wernham) Keay comb. nov.

Randia hapalophylla Wernham, Journ. Bot., LV, p. 9 (1917); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931).

Type : E. Nigeria, *Talbot* 211*a* (BM, holotype !).

Also recorded from British Cameroons (*Rudatis* 66) and French Cameroons (*Zenker* 3032*a* et 3512).

2. **Amaralia amaraliocarpa** (Wernham) Keay, comb. nov.

Randia amaraliocarpa Wernham, Journ. Bot., LV, p. 8 (1917); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931).

Type : E. Nigeria, *Talbot* 3021 (BM, holotype !).

3. **Amaralia streptocaulon** (K. Schum.) Keay, comb. nov.

Randia streptocaulon K. Schum., Engl. Bot. Jahrb., XXIII, p. 440 (1897); Wernham, Journ. Bot., LV, p. 8 (1917).

Type : French Cameroons, *Staudt* 12 (K, P, isotypes !).

In addition to the above it is necessary to dispose of *Randia amaralioides* K. Schum. ex Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 79 (1931), based on *Soward* 650 from Ghana and *Rowland* s.n. and *Talbot* s.n. from Nigeria. Of these specimens *Soward* 650 is *Amaralia calycina* (G. Don) K. Schum. and *Rowland* s.n. is *Amaralia Millenii* Wernham, but unfortunately I have not traced the *Talbot* specimen. *Randia amaralioides* K. Schum. was a manuscript name applied to *Zenker* 1017 and 2123 and was mentioned by Hua in his discussion (l. c., p. 389); these specimens are conspecific with *Amaralia streptocaulon* (K. Schum.) Keay.

20. AULACOCALYX Hook. f. in Hook., Ic. Pl., t. 1126 (1873).

Dorothea Wernham, Cat. Talb. Nig. Pl., p. 46 (1913).

Type species : *Aulacocalyx jasminiflora* Hook. f.

Probably about six species, all in western tropical Africa.

Dorothea is distinguished by the corolla tube being split down one side at anthesis and the style which becomes recurved through the split in the corolla tube. Apart from this, *Dorothea* and *Aulacocalyx* are extremely similar and I do not consider the split corolla tube is worth more than subgeneric recognition.

Hooker in his description of *Aulacocalyx* described the ovules as solitary and pendulous in each of the two cells of the ovary. Wern-

ham in his description of *Dorothea* said that each cell had a single pendulous placenta with a few (« haud numerosa ») immersed ovules. In the F. W. T. A. *Aulacocalyx* was accordingly retained in the *Alberteae* (« ovule solitary in each cell » and « pendulous ») and *Dorothea* was retained in the *Gardenieae* (« ovules 2 or more in each ovary-cell »).

In fact both *Aulacocalyx jasminiflora* and *Dorothea Talbotii* have in each ovary-cell a pendulous placenta containing inside a pair of ovules. The placentas persist in fruit and surround the pair of seeds (or single seed by abortion) in each cell.

Several species of *Aulacocalyx* have been included in *Randia*, probably on account of the method of branching which is very similar to certain species of what I regard as *Rothmannia*. The F. W. T. A. species are :

1. **Aulacocalyx jasminiflora** Hook. f. in Hook., Ic. Pl., t. 1126 (1873); Hiern. in Oliv., Fl. Trop. Afr., III, p. 129 (1877); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 85 (1931).

Randia andongensis Hiern, Cat. Welw. Afr. Pl., I, p. 458 (1898).

Randia Dorothea Wernham, Journ. Bot., LVII, p. 346 (1919).

Type : Spanish Guinea, *Mann* 1788 (K, holotype !).

Extends from Sierra Leone to Belgian Congo and Angola.

2. **Aulacocalyx caudata** (Hiern) Keay, comb. nov.

Randia ? caudata Hiern in Oliv., Fl. Trop. Afr., III, p. 96 (1877).

Aulacocalyx leptactinoides K. Schum., Engl. Bot. Jahrb., XXIII, p. 453 (1897).

Randia leptactinoides K. Schum. ex Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 78 (1931).

Rothmannia leptactinoides (K. Schum. ex Hutch. et Dalz.) Fagerlind, Arkiv för Bot. Stockh., XXX A, 7, p. 39 (1943).

Type : Spanish Guinea, *Mann* 1699 (K, holotype !).

Also recorded from E. Nigeria (*Talbot* 285), British Cameroons (e.g. *Umana* FHI 28551), French Cameroons (e.g. *Zenker* et *Staudt* 101a et 614) and Gabon (*Büttner* 204, fide K. Schum. l.c.).

3. **Aulacocalyx divergens** (Hutch. et Dalz.) Keay, comb. nov.

Dorothea divergens Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 76 (1931).
Dorothea minor Wernham ex A. Chev., Explor. Bot., p. 324 (1920), nomen nudum.

Type : Sierra Leone, *Lane-Poole* (K, holotype !).
Also recorded from French Guinea (e.g. *Farmar* 317).

4. **Aulacocalyx Talbotii** (Wernham) Keay, comb. nov.

Dorothea Talbotii Wernham, Cat. Talb. Nig. Pl., p. 46, t. 7 (1913); Hutch. et Dalz., Fl. W. Trop. Afr., II, p. 76 (1931).

Type : E. Nigeria, *Talbot* 1546 (BM, holotype ! K, isotype !).
Also known from French Cameroons (*Zenker* 4140).

21. DIDYMOSALPINX Keay, gen. nov.

Frutices nonnunquam scandentes, vel arbusculae. *Stipulae* intrapetiolares, basi paulo connatae, apice acutae vel longe acuminatae. *Ramuli* laterales supra nodos orti, nonnunquam abbreviati, efoliati et spinescentes. *Flores* solitarii (raro 2-3), supra nodos in geminis oppositis longe pedicellati. *Calyx* tubo brevo, lobis (4-) 5, triangularibus vel lanceolatis instructus. *Corolla* longitudinaliter costata, parte interiore pilosae exceptae glabra, infundibuliformis, basi angusta, supra sensim dilata, lobis (4-) 5, ovatis, vel deltoideis vel obovato-ellipticus, contortis, praedita. *Antherae* lineares (4-) 5, sessilia, fauce corollae affixae, non exsertae. *Stylus* in partem superiorem fusiformem plerumque dilatus; stigma bifida ad apice styli fundita. *Ovarium* placentis 2, parietalibus, praeditum, 1-loculare vel saepius ob placentis conjugentibus plus minusve 2-loculare; ovula plurima. *Fructus* subglobosus vel obovoideus (? vel fusiformis), exocarpo crustaceo, seminibus complanatis in massam unicam conglobatis instructus.

Species generis typica : *Didymosalpinx abbeokutae* (Hiern) Keay.

Derivation : διδυμος, a twin; σαλπινξ, a trumpet.

The pollen grains of *D. abbeokutae* (*Dalziel* 51) have been studied by Prof. Erdtman who has kindly supplied the following diagnosis :

Grains (2-) 3-colpoidorate (brevicolpoidate), suboblate (-oblate spheroidal), 27×31 μ. Amb ± circular or slightly triangular (grains with triangular amb angulaperturate). Exine about 1.5-2 μ thick. Sexine as thick as nexine or slightly thicker, reticulate. Reticulum heterobrochate (largest lumina about 2 μ wide, breadth of muri less than diameter of lumina), polybrochate (about 20 or more brochi at the amb of each mesaperturium). Muri ± straight, psilate, simplibaculate. Lumina psilate. OL (lumina), LO (bacula). Colpoids short. Ora slightly lolongate, their margins not very incrassate. A ± triangular area at each pole is usually more or less depressed.

Up to the present five species of *Didymosalpinx* are known; all come from tropical Africa and are closely related one to another. They are :

1. **Didymosalpinx abbeokutae** (Hiern) Keay, comb. nov.— Plate V.

Gardenia abbeokutae Hiern in Oliv., Fl. Trop. Afr., III, p. 104 (1877).
Gardenia Hiernii Scott Elliot, Journ. Linn. Soc., XXX, p. 80 (1894).

Type : W. Nigeria, *Irving* 32 (K, holotype !).
Also recorded from French Guinea (*Martine* 297), Sierra Leone (e.g. *Mann* 840, *Scott Elliot* 5516), Liberia (e.g. *Cooper* 290), Ivory Coast (e.g. *Chevalier* 21240), Ghana (e.g. *Dalziel* 51), E. Nigeria (*Talbot* 1519), British Cameroons (*Press* 1259) and French Cameroons (*Mildbraed* 8902).

2. **Didymosalpinx konguensis** (Hiern) Keay, comb. nov.

Gardenia konguensis Hiern in Oliv., Fl. Trop. Afr., III, p. 104 (1877).
Type : Spanish Guinea, *Mann* 1784 (K, holotype !).

3. **Didymosalpinx lanciloba** (S. Moore) Keay, comb. nov.

Gardenia lanciloba S. Moore, Journ. Bot., XLV, p. 264 (1907).
Gardenia tchibangensis Pellegr., Bull. Soc. Bot. Fr., LXXXV, p. 57 (1938).

Type : Uganda, *Bagshawe* 1281 (BM, holotype !).
Also recorded from Gabon (e.g. *Le Testu* 9319), Belgian Congo (e.g. *Louis* 8347) and Angola (*Gossweiler* 13813).

Didymosalpinx abbeokutae (HIERN) KEAY: A. flowering shoot (× 2/3); B. ovary and section of calyx (× 4); C. longitudinal section of flower (× 1); D. apex of style and stigma (× 2); E. fruit (× 2/3); F. transverse section of ovary (diagrammatic). (A: *Deighton* 2660; B-D & F: *Keay* FHI 22545; E: *Thomas* 6473).

4. **Didymosalpinx Norae** (Swynnerton) Keay, comb. nov.

Gardenia Norae Swynnerton, Journ. Linn. Soc., XL, p. 80 (1911).
Gardenia abbeokutae Auct. non Hiern; Verdcourt, Kew Bull. 1952, p. 360 (1952).

Type : S. Rhodesia, *Swynnerton* 11 (K, holotype !).
Also recorded from the eastern Usambaras, Tanganyika (*Verdcourt* 165, *Verdcourt* et *Hesse* 268).

Observation. — Very similar to *D. abbeokutae* but differs in that the lower part of the style is pilose.

5. **Didymosalpinx parviflora** Keay, sp. nov.; a ceteris speciebus floribus aliquanto minoribus, stipulis calycibusque juventute puberulis differt.

Frutex erectus, 2-3 altus. *Ramuli* glabri, plus minusve quadrangulares, siccitate rufuli vel brunnei; ei adulti cortice nitente obtecti. *Stipulae* laminis lanceolatis circiter 6 mm longis, praepicue ad carinam dorsalem pubescentibus praeditae; laminis delapsis, bases stipularum, vaginales, truncati, intus dense pubescentes, persistentes. *Folia* papyracea, juventute pubescentia mox glabra, oblonga vel obovato-oblonga, 8.5-22 cm longa, 4-8 cm lata, basi plerumque obtusa, raro rotundata vel cuneata, in petiolis 8-16 mm longis anguste decurrentia, apice valde acuminata; pagina superior siccitate cinerea; costa basi impressa sed medio ad apicem prominens; pagina inferior siccitate rufula; costa prominens utrinsecus nervis lateralibus primariis 5-10 prominentibus sub marginem conjugentibus instructa. *Pedicelli* circiter 12 mm longi glabri vel sparse puberuli, bracteolis 3, lanceolatis, puberulis, 1 mm longis, 3 mm supra basin muniti. *Calyx* tubo glabro vel extra sparissime puberulo circiter 2 mm longo, lobis 5, triangularibus extra carinatis et puberulis intus glabris, 1.5-2 mm longis instructus. *Corolla* extra glaber tubo costato, intus dense et laxe et longe piloso, infundibuliforme, 18-25 mm longo, lobis 5 obovato-ellipticus apice rotundatis, intus basin versus dense pilosi ceterum glabris, 15-20 mm longis, 8-10 mm latis instructa. *Antherae* 5, circiter 10 mm longae, in fauce corollae omnino clusae. *Stylus* glaber, circiter 32 mm longus, in partem superiorem attenuatus, videtur non dilatus. *Ovarium* extra glabrum, circiter 5 mm longum. *Fructus* immaturus fusiformis, calyce coronatus, usque 30 mm longus et 7 mm diametro, glaber.

E. NIGERIA : Ogoja Province, Ikom Division, Afi River Forest Reserve, West boundary of Boje enclave, in patch of high forest; 26 May 1946, *A. P. D. Jones* et *C. F. A.* Onochie FHI 18905 (K, FHO); South boundary of Boje enclave, in broken forest among forest undergrowth shrubs in shaded patches, 26 May 1946, *A. P. D. Jones* et *C. F. A. Onochie* 18912 (K, holotype; FHO, isotype).

BRITISH CAMEROONS : Victoria Division, Mabeta, in high forest, 20 May 1946, *I. M. Motuba* FHI 15067 (K, FHO).

Observations. — 1. — Jones and Onochie described the calyx and ovary as green or very pale greenish-cream, and the corolla as white, tinged deep cream in the throat.

2. — Since describing this species I have found a specimen (*Brenan* 9425), from the British Cameroons, in which the flowers are sometimes 2 or 3 together on short supra-axillary peduncles.

I should again like to thank Mr. A. A. Bullock for his assistance, and Prof. G. Erdtman and his staff for their most valuable co-operation. I would also thank others of my colleagues at Kew, the British Museum and the Forest Herbarium Oxford, who have helped in various ways. I am indebted to Prof. H. Humbert and his staff for the loan of specimens from Paris and to Prof. W. Robyns and his staff for the loan of specimens from Bruxelles.

I should like to thank Miss E. M. Stones for the splendid plates she has drawn from rather uninspiring preserved material, and also to thank the Director of Forest Research, Nigeria, who made funds available for these drawings. Finally my sincere thanks are due to Miss I. Taylor who has done the typing and helped in preparing the index.

Index to species of *Randia* mentioned in this paper, together with all other African Species.

Name under *Randia*	Name adopted (or suggested) in present revision	
Randia acarophyta DE WILD.	*Aidia* sp.	
R. acuminata (G. DON) BENTH.	*Massularia acuminata* (G. DON) BULLOCK ex HOYLE	23
R. Adolfi-friederici K. KRAUSE	*Porterandia nalaensis* (DE WILD.) KEAY	24
R. africana G. DON	Type spm. not traced; descr. inadequate	

Name under *Randia*	Name adopted (or suggested) in present revision	
R. amaraliocarpa WERNHAM	*Amaralia amaraliocarpa* (WERNHAM) KEAY	59
R. amaralioides K. SCHUM. ex HUTCH. et DALZ.	*Amaralia calycina* (G. DON) K. SCHUM.	59
	Amaralia Millenii WERNHAM	59
R. andongensis HIERN	*Aulacocalyx jasminiflora* HOOK. F.	60
R. angolensis HUTCH.	Type spm. not traced; descr. suggests *Rothmannia*	
R. annulata K. SCHUM.	*Porterandia annulata* (K. SCHUM.) KEAY	24
R. Barteri (HOOK. F. ex HIERN) K. SCHUM.	*Mitriostigma Barteri* HOOK. F. ex HIERN	41
R. bellatula K. SCHUM.	*Rothmannia capensis* THUNB.	50
R. Bowieana HOOK.	*Euclinia longiflora* SALISB.	39
R. brachythamnus K. SCHUM.	Type spm. not traced; descr. suggests *Xeromphis.*	
R. Bruneelii DE WILD.	*Rothmannia lateriflora* (K. SCHUM.) KEAY	52
R. Buchananii OLIV.	*Rothmannia manganjae* (HIERN) KEAY	56
R. cacaocarpa WERNHAM	*Massularia acuminata* (G. DON) BULLOCK ex HOYLE	23
R. castaneofulva S. MOORE	*Porterandia castaneofulva* (S. MOORE) KEAY	24
R. ? caudata HIERN	*Aulacocalyx caudata* (HIERN) KEAY	60
R. Chevalieri AUBRÉV.	*Rothmannia urcelliformis* (SCHWEINF. ex HIERN) BULLOCK ex ROBYNS	51
R. chloroleuca K. SCHUM.	*Polycoryne fernandensis* (HIERN) KEAY	34
R. chromocarpa K. SCHUM.	Type spm. not traced; decr. suggests *Amaralia.*	
R. cladantha K. SCHUM.	*Porterandia cladantha* (K. SCHUM.) KEAY	24
R. clathrodendron K. SCHUM.	Type spm. not traced; descr. suggests *Xeromphis.*	
R. congestiflora K. KRAUSE	*Aidia* sp.	
R. congolana DE WILD. et TH. DUR.	*Aidia* sp.	
R. coriacea BENTH.	*Tricalysia coriacea* (BENTH.) HIERN	
R. coriacea K. SCHUM. ex HUTCH. et DALZ.	*Rothmannia Lujae* (DE WILD.) KEAY	53
R. Cunliffeae WERNHAM	*Rothmannia octomera* (HOOK.) FAGERLIND	50
R. curvipes WERNHAM	*Amaralia* sp.	
R. Cuvelierana DE WILD.	*Rothmannia Whitfieldii* (LINDL.) DANDY	55
R. discolor K. KRAUSE	Type spm. not traced; descr. suggests *Rothmannia.*	

Name under *Randia*	Name adopted (or suggested) in present revision	
R. Dorothea WERNHAM	*Aulacocalyx jasminiflora* HOOK. F. ...	60
R. dumetorum (RETZ.) LAM.	*Xeromphis spinosa* (THUNB.) KEAY ...	37
R. Eetveldeana DE WILD. et TH. DUR.	*Rothmannia Whitfieldii* (LINDL.) DANDY	55
R. Engleriana K. SCHUM.	*Rothmannia Engleriana* (K. SCHUM.) KEAY	57
R. exserta K. SCHUM.	*Preussiodora exserta* (K. SCHUM.) KEAY	32
R. Fischeri K. SCHUM.	*Rothmannia Fischeri* (K. SCHUM.) BULLOCK	50
R. fratrum K. KRAUSE	*Rothmannia manganjae* (HIERN) KEAY	56
R. Galtonii WERNHAM	*Rothmannia octomera* (HOOK.) FAGERLIND	50
R. gambica HIERN	Type spm. (at BM) very poor; probably not *Rubiaceae*.	
R. genipaeflora DC.	*Aidia genipiflora* (DC.) DANDY	23
R. hapalophylla WERNHAM	*Amaralia hapalophylla* (WERNHAM) KEAY	58
R. hispida K. SCHUM.	*Rothmannia hispida* (K. SCHUM.) FAGERLIND	52
R. Homblei DE WILD.	*Rothmannia Whitfieldii* (LINDL.) DANDY	55
R. immanifolia WERNHAM	*Schumanniophyton magnificum* (K. SCHUM.) HARMS	27
R. jasminiflora K. KRAUSE	Type spm. not traced; descr. suggests *Xeromphis*.	
R. katentaniae DE WILD.	*Rothmannia Engleriana* (K. SCHUM.) KEAY	57
R. Kerstingii K. KRAUSE	Type spm. not traced; descr. indicates *Rothmannia*.	
R. Kraussii HARV.	*Xeromphis obovata* (HOCHST.) KEAY	39
R. Kuhniana F. HOFFM. et K. SCHUM.	*Rothmannia Engleriana* (K. SCHUM.) KEAY	57
R. Lachnosiphonium HOCHST.	*Xeromphis obovata* (HOCHST.) KEAY	39
R. Lacourtiana DE WILD.	*Rothmannia Engleriana* (K. SCHUM.) KEAY	57
R. Lane-Poolei HUTCH. et DALZ.	*Rothmannia megalostigma* (WERNHAM) KEAY	54
R. lasiophylla K. KRAUSE	Type spm. not traced; descr. suggests *Rothmannia*.	
R. Lemairei DE WILD.	*Rothmannia Engleriana* (K. SCHUM.) KEAY	57
R. Lemblini A. CHEV.	*Coffea* sp.	
R. leptactinoides K. SCHUM. ex HUTCH. et DALZ.	*Aulacocalyx caudata* (HIERN) KEAY	60

Name under *Randia*	Name adopted (or suggested) in present revision	
R. Letestui PELLEGR.	*Porterandia annulata* (K. SCHUM.) KEAY	24
R. Liebrechtsiana DE WILD. et TH. DUR.	*Rothmannia Liebrechtsiana* (DE WILD. et TH. DUR.) KEAY	51
R. longiflora SALISB.	*Euclinia longiflora* SALISB.	39
R. longiflora (SALISB.) DUR. et SCHINZ	*Rothmannia longiflora* SALISB.	53
R. longistyla DC.	*Macrosphyra longistyla* (DC.) HOOK. F. ex HIERN	28
R. lucida A. CHEV.	*Gardenia sokotensis* HUTCH.	
R. lucidula HIERN	*Aidia* sp.	
R. Lujae DE WILD.	*Rothmannia Lujae* (DE WILD.) KEAY	53
R. macrantha (SCHULTES) DC.	*Euclinia longiflora* SALISB.	39
R. macrocarpa HIERN	*Rothmannia macrocarpa* (HIERN) KEAY	55
R. macrosiphon K. SCHUM. ex ENGL.	*Rothmannia Whitfieldii* (LINDL.) DANDY	55
R. maculata DC.	*Rothmannia longiflora* SALISB.	53
R. malleifera (HOOK.) HOOK. F.	*Rothmannia Whitfieldii* (LINDL.) DANDY	55
R. malleiflora WALP.	*Rothmannia Whitfieldii* (LINDL.) DANDY	55
R. mayumbensis GOOD	*Rothmannia mayumbensis* (GOOD) KEAY	54
R. megalostigma WERNHAM	*Rothmannia megalostigma* (WERNHAM) KEAY	54
R. micranta K. SCHUM.	*Aidia* sp.	
R. microphylla K. SCHUM.	*Gardenia Neuberia* ECKLON et ZEYHER, but this is not a true *Gardenia*.	
R. mitis LINN.	Type species of *Randia* LINN.	17, 37
R. monteiroae K. SCHUM.	Type spm. not seen; descr. suggests *Xeromphis*.	
R. mossica A. CHEV.	*Gardenia sokotensis* HUTCH.	40
R. Msonju K. KRAUSE	*Aidia* sp.	
R. munsae SCHWEINF. ex HIERN	See *Rothmannia megalostigma* (WERNHAM) KEAY	54
R. myrmecophyla DE WILD.	*Rothmannia macrocarpa* (HIERN) KEAY	55
R. nalaensis DE WILD.	*Porterandia nalaensis* (DE WILD.) KEAY	24
R. naucleoides S. MOORE	Possibly a separate new genus.	
R. nilotica STAPF	*Xeromphis nilotica* (STAPF) KEAY	39
R. ochroleuca K. SCHUM.	*Aidia* sp.	
R. octomera (HOOK.) HOOK. F.	*Rothmannia octomera* (HOOK.) FAGERLIND	50
R. pallens HIERN	*Aidia pallens* (HIERN) G. TAYLOR.	

Name under *Randia*	Name adopted (or suggested) in present revision	
R. penduliflora K. Schum.	*Porterandia penduliflora* (K. Schum.) Keay	24
R. physophylla K. Schum.	*Gardenia imperialis* K. Schum.	41
R. psychotrioides K. Schum.	*Polycoryne fernandensis* (Hiern) Keay	34
R. purpureo-maculata C. H. Wright	*Pseudogardenia Kalbreyeri* (Hiern) Keay	46
R. Pynaertii De Wild.	*Rothmannia hispida* (K. Schum.) Fagerlind	52
R. Quintasii K. Schum.	*Aidia Quintasii* (K. Schum.) G. Taylor.	
R. refractiloba K. Krause	*Aidia rubens* (Hiern) G. Taylor	22
R. reticulata Benth.	*Tricalysia reticulata* (Benth.) Hiern	
R. rhacodosepala K. Schum	*Aidia* sp.	
R. rubens Hiern	*Aidia rubens* (Hiern) G. Taylor	22
R. rudis E. Mey.	Probably *Xeromphis*.	
R. sambesiaca Schinz	Type spm. not seen; descr. suggests *Xeromphis*.	
R. Sapini De Wild.	*Rothmannia longiflora* Salisb.	53
R. sassandrae A. Chev.	*Aidia genipiflora* (DC.) Dandy	23
R. Sereti De Wild.	*Gardenia Sereti* (De Wild.) De Wild.	
R. sericantha K. Schum.	*Porterandia penduliflora* (K. Schum.) Keay	24
R. Sherbourniae (Hook.) Hook	*Amaralia calycina* (G. Don) K. Schum.	59
R. spathacea De Wild.	*Rothmannia longiflora* Salisb.	53
R. spathicalyx De Wild.	*Rothmannia urcelliformis* (Schweinf. ex Hiern) Bullock ex Robyns	51
R. spathulifolia Good	*Brenania spathulifolia* (Good) Keay	26
R. sphaerocoryne K. Schum.	*Aidia* sp.	
R. spinosa (Thunb.) Blume	*Xeromphis spinosa* (Thunb.) Keay	37
R. Stanleyana (Hook. ex Lindl.) Walp.	*Rothmannia longiflora* Salisb.	53
R. stenophylla K. Krause	*Rothmannia urcelliformis* (Schweinf. ex Hiern) Bullock ex Robyns	51
R. Stolzii K. Schum. et K. Krause	*Rothmannia Whitfieldii* (Lindl.) Dandy	55
R. streptocaulon K. Schum.	*Amaralia streptocaulon* (K. Schum.) Keay	59
R. sulphurea K. Schum.	*Preussiodora sulphurea* (K. Schum.) Keay	32
R. Swynnertonii S. Moore	*Xeromphis* sp.	
R. Talbotii Wernham	*Rothmannia Talbotii* (Wernham) Keay	55
R. Taylori S. Moore	*Xeromphis* sp.	

Name under *Randia*	Name adopted (or suggested) in present revision
R. terniflora Ficalho et Hiern	*Rothmannia Engleriana* (K. Schum.) Keay 57
R. Thomasii Hutch. et Dalz.	*Rothmannia longiflora* Salisb. 53
R. torulosa K. Krause	Type spm. not seen; descr. suggests *Xeromphis*.
R. troposepala K. Schum.	Type spm. not seen; descr. suggests *Rothmannia* or *Gardenia*.
R. tubaeformis Pellegr.	*Rothmannia Talbotii* (Wernham) Keay 55
R. urcelliformis (Schweinf. ex Hiern) Eggeling	*Rothmannia urcelliformis* (Schweinf. ex Hiern) Bullock ex Robyns ... 51
R. vestita S. Moore	*Xeromphis* sp.
R. violascens Hiern	See *Rothmannia urcelliformis* (Schweinf. ex Hiern) Bullock ex Robyns 51
R. Walkeri Pellegr.	*Brenania spathulifolia* (Good) Keay 26

Index to other species mentioned in this paper.

Aidia cochinchinensi Lour 22
A. genipiflora (DC.) Dandy ... 23
A. rubens (Hiern) G. Taylor ... 22
Amaralia amaraliocarpa (Wernham) Keay 59
A. bignoniiflora (Welw.) Hiern 57
A. hapalophylla (Wernham) Keay 58
A. penduliflora (K. Schum.) Wernham 24, 58
A. streptocaulon (K. Schum.) Keay 59
Aulacocalyx caudata (Hiern) Keay 60
A. divergens (Hutch. et Dalz.) Keay 61
A. jasminiflora Hook. f. 59, 60
A. leptactinoides K. Schum. 60
A. Talbotii (Wernham) Keay ... 61
Brenania spathulifolia (Good) Keay 26
Calochone acuminata Keay 28, 30
C. Redingii (De Wild.) Keay ... 30
Canthium chinense Pers. 38
C. coronatum Lam. 38
Didymosalpinx abbeokutae (Hiern) Keay 61, 62
D. konguensis (Hiern) Keay ... 62
D. lanciloba (S. Moore) Keay 62
D. Norae (Swynnerton) Keay 64
D. parviflora Keay 64
Dorothea divergens Hutch. et Dalz. 61
D. minor Wernham ex A. Chev. 61
D. Talbotii Wernham 61
Euclinia longiflora Salisb. 39
E. squamifera (Good) Keay ... 40
Gardenia abbeokutae Hiern 62
G. ? acuminata G. Don 23
G. Annae E. P. Wright 50
G. Annae E. P. Wright var. *moramballae* Hiern 50
G. aqualla Stapf et Hutch. ... 40
G. calungensis Good 51
G. Cunliffeae Wernham 36
G. Devoniana Lindl. 40
G. dumetorum Retz. 38

G. erubescens Stapf et Hutch. 40
G. fernandensis Hiern 34
G. genipaeflora (DC.) Roberty 23
G. globosa Hochst. 56
G. Gossleriana J. Braun et K. Schum. 46
G. Hiernii Scott Elliot 62
G. imperialis K. Schum. 41
G. jasminoides Ellis..... 16, 18, 40
G. Kalbreyeri Hiern 46
G. konguensis Hiern 62
G. lanciloba S. Moore 62
G. lateriflora K. Schum. 52
G. Letestui Pellegr. 51
G. longiflora (Salisb.) Dryander 39
G. ? longifolia G. Don 40
G. longistyla (DC.) Hook. 28
G. lutea Fres. 40
G. macrantha Schultes 39
G. malleifera Hook. 55
G. manganjae Hiern 56
G. nigrificans Wernham 52
G. nitida Hook. 40
G. Norae Swynnerton 64
G. octomera Hook. 50
G. palacea A. Rich. 28
G. physophylla (K. Schum.) De Wild. 41
G. Rothmannia Linn. f. 50
G. sokotensis Hutch. 18, 40
G. spathicalyx K. Schum. ex Wernham 52
G. speciosa A. Rich. 53
G. spinosa Linn. f. 37
G. spinosa Thunb. 37
G. squamifera Good 40
G. Stanleyana Hook. ex Lindl. 53
G. tchibangensis Pellegr. 62
G. ternifolia Schum. et Thonn. 18, 41
G. tigrina Welw ex Hiern 51
G. triacantha DC. 40
G. Trochainii Sillans 32
G. tubiflora Andr. 43
G. urcelliformis Schweinf. ex Hiern 51
G. viscidissima S. Moore ... 41
G. voacangoides Mildbr. 27
G. Vogelii Hook. f. ex Planch. 40
G. Whitfieldii Lindl. 55
Lachnosiphonium niloticum (Stapf) Dandy 39
L. obovatum Hochst. 39
Macrosphyra brachysiphon Wernham 28
M. longistyla (DC.) Hook. f. ex Hiern 27, 28
M. Redingii De Wild. 30
Massularia acuminata (G. Don) Bullock ex Hoyle 23
Mitriostigma axillare Hochst. ... 41
M. Barteri Hook.f. ex Hiern ... 41
M. ? subpunctatum Hiern 42, 44
Morelia senegalensis A. Rich. ex DC. 22
Oligocodon Cunliffeae (Wernham) Keay 36
Oxyanthus hirsutus DC. 42
O. racemosus (Schumach. et Thonn.) Keay 42
O. rubriflorus Hiern 42
O. setosus Keay 44
O. speciosus DC. 42
O. subpunctatus (Hiern) Keay 44
O. ? sulcatus Hiern 42
O. tenuis Stapf 44
O. Thonningii Benth. 42
O. villosus G. Don 28
Polycoryne fernandensis (Hiern) Keay 34
Porterandia anisophylla (Jack ex Roxb.) Ridley 23
P. annulata (K. Schum.) Keay... 24
P. castaneofulva (S. Moore) Keay 24
P. cladantha (K. Schum.) Keay 24
P. nalaensis (De Wild.) Keay 24
P. penduliflora (K. Schum.) Keay 24

Preussiodora sulphurea (K. Schum.) Keay 32

Pseudogardenia Kalbreyeri (Hiern) Keay 46

Rothmannia Annae (E. P. Wright) Keay 50

R. arcuata Bremek. 51

R. Bowieana (Hook.) Benth. ... 40

R. Buchananii (Oliv.) Fagerlind 56

R. capensis Thunb. 47, 50

R. coriacea Fagerlind 53

R. Eetveldeana (De Wild. et Th. Dur.) Fagerlind 56

R. Engleriana (K. Schum.) Keay 57

R. Fischeri (K. Schum.) Bullock 50

R. fratrum (K. Krause) Fagerlind 57

R. giganthrophaera Fagerlind ... 53

R. globosa (Hochst.) Keay ... 56

R. hispida (K. Schum.) Fagerlind 52

R. Kuhniana (K. Hoffm. et K. Schum.) Fagerlind 57

R. lateriflora (K. Schum.) Keay 52

R. leptactinoides (K. Schum. ex Hutch. et Dalz.) Fagerlind 60

R. Liebrechtsiana (De Wild. et Th. Dur.) Keay 51

R. longiflora Salisb. 53

R. Lujae (De Wild.) Keay 53

R. macrantha (Schultes) Robyns 40

R. macrocarpa (Hiern) Keay ... 55

R. maculata (DC.) Fagerlind ... 53

R. malleifera (Hook.) Hook. ex Benth. 55

R. manganjae (Hiern) Keay ... 56

R. mayumbensis (Good) Keay... 54

R. megalostigma (Wernham) Keay 54

R. octomera (Hook.) Fagerlind 50

R. physophylla (K. Schum.) Fagerlind 41

R. Stanleyana (Hook. ex Lindl.) Hook. ex Benth. 53

R. Talbotii (Wernham) Keay 55

R. urcelliformis (Schweinf. ex Hiern) Bullock ex Robyns ... 51

R. Whitfieldii (Lindl.) Dandy 55

Schumanniophyton magnificum (K. Schum.) Harms 27

Tetrastigma magnificum K. Schum. 27

Ucriana racemosa Schumach. et Thonn. 42

Xeromphis nilotica (Stapf) Keay 39

X. obovata (Hochst.) Keay ... 39

X. Retzii Raf. 38

X. spinosa (Thunb.) Keay 37

DEUX *DICHAPETALUM* NOUVEAUX D'AFRIQUE CENTRALE

PAR

Lucien HAUMAN.

Dichapetalum Michelsonii HAUMAN, sp. nov. (§ *Echinata* ENGL.); *D. Stuhlmannii* ENGL. fructibus echinatis affine, sed ramulis, foliis, inflorescentiisque glabris differt.

Arbor mediocris valde ramosa, ramis juvenilibus 1,5 mm diam. leviter cristulatis, glabris. *Folia* stipulis caducis verisimiliter minimis, petiolo 5-6 mm longo, lamina elliptico-obovata, basi cuneata ad apicem acuta, subacuminata vel obtusa, 4-12 cm longa, 2-4 cm lata, sat coriacea, glabra, basi apiceque glandulosa, nervis subtus prominentibus, luteis, secundariis utrinque 6-7 pulchre anastomosantibus. *Inflorescentiae* cymosae condensatae, axillares et solitariae, vel in racemis brevibus dispositae, pedunculo 1-2 cm longo, saepe 2-furcato, parte florifera 0,8-1 cm longa, 1,2-2,5 cm lata. *Flores* pedicello 3-5 mm longo, tomentello; sepala linearia apice leviter cucullata, 4-5 mm longa, 1,5 mm lata, utrinque pilis appressis brevibus albis sat sparsis ornata; petala linearia apice vix dilata, breviter 2-dentata, 3-3,5 mm longa; squamulae glabrae truncatae; stamina 3,5 mm longa; ovarium subhemisphaericum, leviter depressum, 3-gonum, pilis appressis albis obtectum, stylo 3 mm longo 3-dentato vel 3-fido. *Fructus globosus,* 18-22 mm longus et 14-17 mm latus, emergentiis aculeiformibus vel laminaribus dense obtectus. *Semina* ovoidea 10-12 mm longa, tegumento atropurpureo, granuloso.

CONGO BELGE :

DISTRICT DES LACS ÉDOUARD ET KIVU : pentes du Mt. Kahusi au kilomètre 38 de la route Kavumu-Buniakiri, à 1960 m d'altitude,

très fréquent dans le bas étage des forêts de montagne, février 1951, *A. Michelson* 961 (holotype BR), 961^2, 961^3, 961^4, 961^5; Bitale, Exploitation forestière N. Deum, kilomètre 48 de la route Kavumu-Walikale, par 2°12' lat. S., 28°32' long. E. et 1800 m d'alt., forêt à *Beilschmiedia oblongifolia, Lebrunia bushiae,* etc., arbre de deuxième grandeur, élément de base très fréquent (jusqu'à 100 tiges de circonférence supérieure à 20 cm par ha), mai 1957, *Pierlot* 1641.

Noms vernaculaires : Limende, Munyemaka, Mwenemaga (dial. kirega, fide *Michelson* et *Pierlot*); Kashungushungu (dial. mashi, fide *Pierlot*).

Observations. — 1. — Espèce remarquable par ses fruits échinulés d'un type signalé uniquement, semble-t-il, pour *D. Stuhlmannii* Engl. de l'Est du Territoire du Tanganyika.

2. — Un tronc de 85 cm de circonférence à 60 cm du sol a montré, en coupe, 34 cercles concentriques; la surface de l'écorce est orange vif, celle des rameaux brun-chocolat à innombrables petites lenticelles blanches.

3. — Le spécimen *Michelson* 961^5, en pleine floraison, diffère des autres par des feuilles plus petites et moins aiguës.

Dichapetalum Bullockii Hauman sp. nov. (§ *Pseudoumbellata* Engl.); a speciebus sectionis suae et verisimiliter omnibus africanis foliis angustissimis differt.

Suffrutex 40 cm altus; caules plurimi e radice verticale nascentes, erecti, virgati, basi 2,5 mm diam., leviter angulosi, glabri, internodiis medianis ± 2 cm longis. *Folia* sessilia anguste linearia, utrinque sensim attenuata, acuta, 6-13 cm longa, 0,4-0,8 cm lata, papyracea, glabra, subtus pallida, nervis supra sat prominentibus. *Inflorescentiae* axillares, solitariae, pauciflorae, pedunculo tenue 1,5-2 cm longo, 2-furcato, ramis 4-5 mm longis, 2-4 flores approximatos gerentibus; bracteolae subulatae, minimae. *Flores* pedicello 1,2 mm longo; calix campanulatus basi abrupte angustatus, sepalis linearibus acutis, 4 mm longis, utrinque tomentellis; petala linearia 3,5 mm longa, brevissime 2-lobulata, facie interna carinata, squamulae perparvae; stamina libera 3-5 mm longa; ovarium liberum ad apicem attenuatum, longe piloso-lanatum, stylo fere ad basin 3-fido. *Fructus* ignotus.

Rhodésie du Nord : Mkupa (9°1' lat. S., 29°25' long. E., 9 oct. 1949), weed of mound cultivation, subshrub to 18 ins., *A. A. Bullock* 1196, ex herb. Kew (holotype BR).

Observation. — L'espèce, qui provient d'un lieu situé à environ 40 km de la frontière du Katanga où elle existe sans doute, est voisine par le port de *D. venenatum* ENGL. ex GILG, qui en diffère par des feuilles beaucoup plus larges, des fleurs plus longues et l'ovaire à poils courts. Il s'agit d'une plante de savane, résistante aux feux de brousse, comme le montre la base de plusieurs tiges brûlées persistante au collet.

Jardin botanique de l'État, Bruxelles.

UNE REMARQUABLE ESPÈCE NOUVELLE DE BRACHIARIA *(Gramineae)*

PAR

P. VAN DER VEKEN.

Depuis quelques années est déposée au Jardin Botanique de l'État à Bruxelles une récolte, provenant du Haut-Katanga, d'une graminée annuelle bien caractérisée par ses épillets turbinés, contractés à leur base en un callus pointu, garnis des deux côtés d'une frange transversale de poils argentés. Nous en donnons ci-après la description et discutons sa position systématique.

Brachiaria turbinata VAN DER VEKEN, sp. nov.; a *Br. argentea* (R. BR.) HUGHES foliis majoribus et spiculis minoribus differt; a *Br. nigropedata* (MUNRO ex HIERN) STAPF forma turbinata atque pilositate spiculorum praecipue recedit. — Pl. VI.

Gramen annuum gracile 40 cm attingens. *Culmi* simplices vel basi semel bifurcati, erecti, subteretes, striati ad furcati (in sicco), glabres; nodi 7-9, pilis albidis brevibus ornati. *Foliorum* vaginae inferiorum internodiis longiores, superiorum breviores, striatae, marginibus pubescentes et dorso pilis longis sparsis tuberculatis munitae; ligulae ad lineam pilorum 0,2 mm longorum redactae; laminae lanceolato-lineares, planae, 2,5-9 cm longae et 0,5-1 cm latae, marginibus cartilaginosis undulatis et spinulosis, 4-6 nervis secundariis subobsoletis utrinque costae medianae, pilis sparsis ornatae. *Inflorescentia* angusta, 5-10 racemis suberectis composita; rachis communis subfiliformis 9 cm attingens, subtriquetra, minute puberula. *Racemi* simplices, densi, 1-2 cm longi, subsessiles; rachis triquetra,

0,5 mm lata, pubescens sed marginibus pilis numerosis tuberculatis munita; pedicelli solitarii, biseriati et secundi, subteretes, apice oblique ligulati, pilis longis rigidis basi tuberculatis spiculam superantibus obtecti. *Spiculae* biflorae turbinatae (± hiantes in sicco), basi in callo acuto contractae, 3 mm longae (callo incluso), argenteo-pilosae et utrinque supra medium pilis argenteis longioribus fimbriatae; gluma inferior ovata, 1/2-2/5 spiculae aequans, 3-nervata, argenteo-pilosa, basi caudata et callum obtectens; gluma superior obovato-elliptica (explanata), argenteo-pilosa sed supra medium linea pilorum rigidiorum atque longiorum spiculam superantium ornata et illinc puberula. *Flos* inferior masculus; lemma glumae superiori subsimile sed brevius, 2-2,2 mm longum; palea oblongo-elliptica late convoluta, subhyalina, carinis duabus anguste alatis atque apicem versus puberulis percursa; stamina 3 antheris 1 mm longis. Flos superior hermaphroditus; lemma ovato-ellipticum (non explanatum), marginibus convolutis pubescentibusque, 2 mm longum, tenuiter coriaceum et minute puncticulatum, obsolete 5-nervatum; palea lemmati subsimilis sed marginibus subhyalinis et glabris, obsolete 2-nervata; lodiculae 2, cuneatae et hyalinae, 0,25 mm longae; stamina 3; ovarium glabrum. *Caryopsis* ignota.

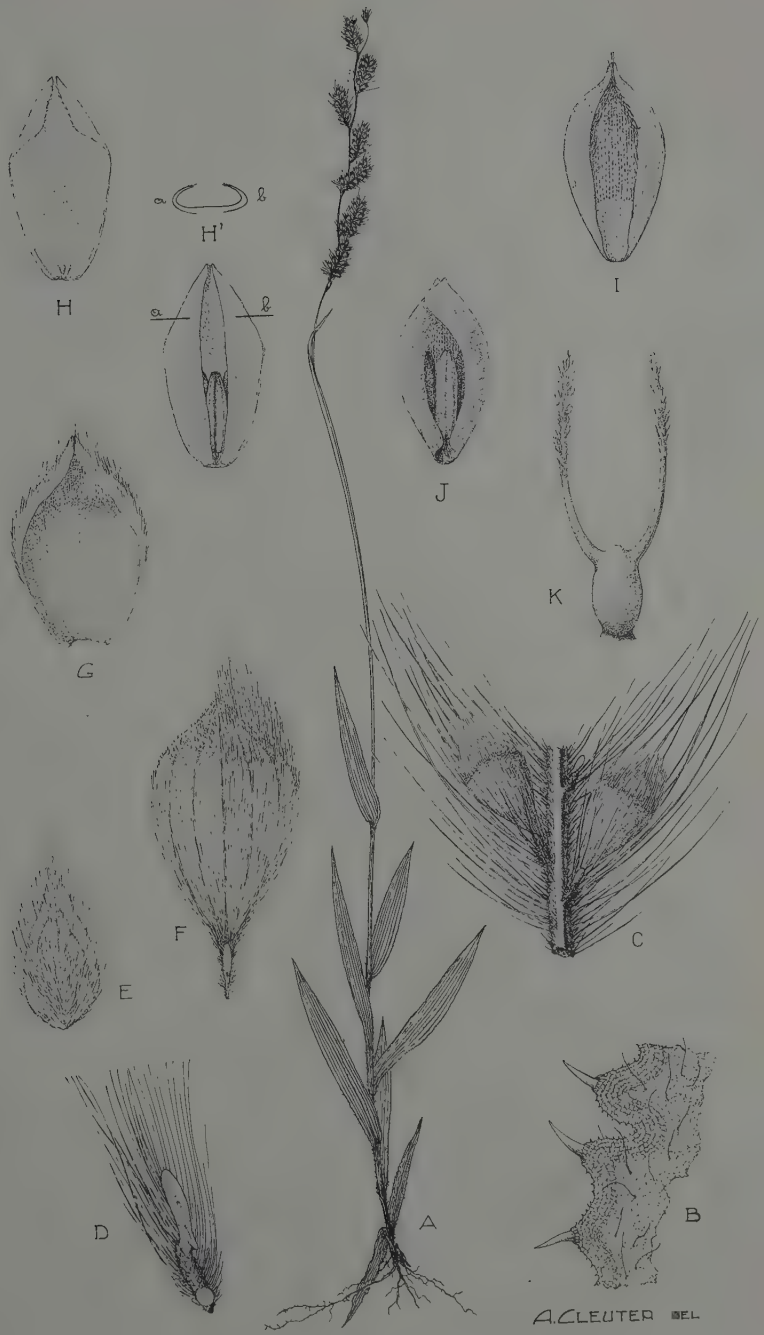
Congo belge :

District du Haut-Katanga : Kiubo, au sud des chutes de la Lufira, sable sur grès, 27 janv. 1954, *Van Oosten* 236 (Holotype BR).

Observations. — 1. — Nous avons indiqué dans le tableau suivant certaines caractéristiques, vérifiées sur du matériel authentifié [1], des espèces de *Brachiaria* les plus proches de notre espèce nouvelle.

[1] Nous remercions sincèrement M^lle^ Camus, de Paris, qui nous a procuré le matériel d'étude nécessaire de *Br. brachylopha* Stapf, espèce qui nous semblait voisine, d'après la description, de la nôtre, et qui n'était pas représentée dans l'herbier de BR.

Brachiaria turbinata Van der Veken : A, port (× 1/2); B, bord d'une feuille (× 20); C, partie de racème (× 10); D, pédicelle d'un épillet (× 25); E, glume inférieure (× 15); F, glume supérieure, frange enlevée à moitié, callus visible à la base (× 15); G, glumelle inférieure de la fleur ♂, vue de face (× 15); H, glumelle supérieure de la fleur ♂, vue de dos (× 15); H', id. vue de face + coupe transversale (× 15); I, glumelle inférieure de fleur ♀, vue de face (× 15); J, glumelle supérieure de la fleur ♀, vue de face (× 15); K, ovaire (× 50). — (*Van Oosten* 236).


H
H'
a
b
I
J
K
G
F
E
C
D
A
B
A. CLEUTER DEL.

	forme des épillets	pilosité sur gl. II et lemma fleur ♂	sommet des pédicelles	forme biologique et distribution
1. *B. argentea*	turbiné	pubescent + frange transversale	asymétrique, ligulé	thérophyte, Australie
2. *B. holosericea* ...	turbiné	pubescent + frange transversale	cupuliforme, rar. ± asym.	thérophyte, Australie
3. *B. nigropedata* ...	elliptique contracté à la base	pubescent	cupuliforme mais lég. asym.	hémicryptophyte cespiteux, Afr. du S.
4. *B. serrata*...	elliptique	pubescent + frange transversale	cupuliforme	hémicryptophyte cespiteux, Afrique
5. *B. turbinata*	turbiné	pubescent + frange transversale	asymétrique, ligulé	thérophyte, Afr. centr.

Il apparaît de cette analyse que c'est l'espèce australienne *B. argentea,* connue uniquement par son matériel-type, qui est la plus voisine de la nôtre : les épillets turbinés, contractés à la base en un callus pointu, sont supportés ± latéralement par des pédicelles à sommet ligulé. (Pl. VI, D).

2. — La section *Lachnanthae* du genre *Brachiaria* comprenait jusqu'ici, en plus des espèces 3 et 4 du tableau, les *Br. lachnantha* (Hochst.) Stapf et *B. brachylopha* Stapf, soit 4 espèces pérennantes. Les trois *Brachiaria* annuels, *B. argentea* (R. Br.) Hughes *B. holosericea* (R. Br.) Hughes et *B. turbinata* Van der Veken peuvent, à notre avis, être inclus dans cette même section, leurs épillets montrant une structure suffisamment affine de celle des quatre espèces pérennantes. La forme turbinée des épillets, à elle seule, aussi typique qu'elle soit, ne justifierait pas la création d'une nouvelle section dans le genre *Brachiaria* pour grouper les trois espèces annuelles; le caractère important : présence d'un callus pointu et asymétrie corrélative des pédicelles, ne convient pas non plus pour séparer ces espèces des quatre autres.

3. — Il existe déjà, dans la tribu des *Paniceae,* quelques genres dont les épillets présentent, à leur base, un callus pointu, du même type que celui qu'on voit à la base des épillets de notre espèce nouvelle :

Spheneria Kühlman (Brésil), genre proche de *Paspalum* L.

Centrochloa Swallen (Brésil), genre voisin d'*Axonopus* P. Beauv.

Digitariopsis C. E. Hubbard (Afr. centr.), proche de *Digitaria* Heist. ex Hall.

Une réflexion de l'agrostologue canadien M. O. Malte nous a tenté, à un certain moment, de prolonger cette série, en créant un genre à côté de *Brachiaria :* « The recognition of such a law (Vavilow) gives the systematist a rather definite and solid basis to work from, when the taxonomic values of the characters affected are under consideration. It simply means that within the family of *Gramineae,* all variations of the same nature ought to be considered as equal, i. e. ought to be conceded equal taxonomic rank and value » (2). Seulement, les étroites affinités déjà constatées par nous (3) entre *Digitariopsis* et *Digitaria,* nous ont fait douter de la valeur taxonomique du caractère — développement d'un callus, plus ou moins étiré, plus ou moins libre, à la base des épillets — jugé très important si non essentiel pour la séparation des genres cités plus haut. Nous nous demandons si ces variations homologues — dont le nombre connu augmentera probablement encore à mesure des progrès réalisés dans l'inventaire de la flore agrostologique des pays tropicaux — sont assez importantes pour justifier la création de nouveaux genres. Pour notre taxon nouveau, nous avons estimé que non; mais nous nous proposons de reprendre, dans un proche avenir, et sur une plus large échelle, ce problème qui nous intrigue beaucoup.

Jardin Botanique de l'État,
février 1958.

(2) Reprise dans : The Origin, Variation, Immunity and Breeding of cultivated Plants, selected writings of N. I. Vavilow, translated by K. Starr Chester, *Chron. Bot.,* XIII, p. 72 (1951).

(3) P. Van der Veken : Une nouvelle espèce de *Digitariopsis, Bull. Jard. Bot. État Brux.,* XXVII, p. 729 (1957).

GRAMINÉES NOUVELLES OU PEU CONNUES DE L'AFRIQUE CENTRALE II

PAR

P. VAN DER VEKEN.

Au cours de nos études sur les Graminées congolaises nous avons pu déceler les quatre genres *Bromuniola, Hydrothauma, Orthoclada* et *Phyllorachis,* nouveaux pour la flore du Congo belge.

Nous présentons également une révision des espèces de *Brachyachne* au Congo, révision qui a nécessité la description de 3 espèces nouvelles pour la Science. Une nouvelle espèce est décrite dans le genre *Digitaria* et a été dédiée à son récolteur.

Il nous est agréable de remercier ici le Directeur des Royal Botanic Gardens de Kew et le Prof. P. Duvigneaud, qui ont mis du matériel d'étude à notre disposition.

BRACHYACHNE Stapf (1).

Le genre *Brachyachne* est caractérisé parmi les autres genres des *Chlorideae,* par ses épillets fortement aplatis, uniflores, à glumes carénées plus longues que la fleur et à glumelles inférieures ± tronquées, ± mucronées, à nervation et pubescence typiques.

Nous donnons ci-après une clef des cinq espèces reconnues par nous dans le matériel à notre disposition, provenant du Congo belge; trois de ces espèces sont nouvelles pour la Science.

(1) Genre oublié ou omis dans la clef de R. Pilger, où il devrait figurer entre *Rendlia* et *Microchloa : Bot. Jahrb.,* LXXVI, p. 345 (1954).

Graminées annuelles, grêles :

Glumes éparsement poilues, ± auriculées à leur base; rachis des racèmes à bords scabérulents; racèmes 1-4 . . . . . 1. *Br. pilosa.*

Glumes glabres; rachis des racèmes lisses :

Carènes de la glumelle supérieure pubescents; racèmes solitaires, de 2-7 cm de long; petite graminée ne dépassant pas 20 cm de haut. . . . . 2. *Br. obtusiflora.*

Carènes de la glumelle supérieure glabres, scabérulents; racèmes solitaires, de 8-10 cm de long; graminée de 30-40 cm de haut. . . . . 3. *Br. upembaensis.*

Graminées pérennantes, cespiteuses :

Glumelle inférieure de 3 mm de long, à mucron de 0,3 mm; glumelle supérieure 2,7 mm de long, à 2 carènes scabérulents; racèmes 3-5; gaines des feuilles inférieures densément pubescentes . . . . . 4. *Br. fulva.*

Glumelle inférieure 4 mm de long, à mucron de 0,1 mm; glumelle supérieure 3,5 mm de long, à 2 carènes ciliolées; racèmes solitaires; gaines parfaitement glabres . . . . . 5. *Br. kundelungensis.*

1. **Brachyachne pilosa** Van der Veken, sp. nov.; *Br. fibrosae* C. E. Hubbard affinis, sed annua ligulis ciliolatis, spiculis minoribus pilosis cum gluma inferiore basi auriculata paleaque glabra.

Gramen annuum, gracile, 20-40 cm altum. *Culmi* erecti, simplices, gracillimi, teretes, laeves; nodi 5-7, ± purpurei, laeves et glabri. *Foliorum* vaginae internodiis breviores, costa media et utrinque nervis secundariis striatae, glabrae, inferiores ± purpureae; ligulae truncatae, brevissimae, margine ciliolatae, totae 0,4 mm longae; laminae anguste lineares ad filiformes, tenuiter acutatae, inferiores 5-6 cm attingentes, ceterae multo breviores, convolutae (in sicco), marginibus laevibus, supra pilis paucis sparsis sat longis ornatae. *Racemi* 1-4, digitati, spiciformes, stricti ad ± falcati, 1-7,5 cm longi, graciles; rachis gracilis, dorso applanata, 0,3-0,4 mm lata, marginibus minute scaberulis, pallide viridis ad purpurea; pedicelli solitarii, alterni, brevissimi. *Spiculae* imbricatae, lateraliter valde compressae, anguste oblongae sed demum hiantes, 2,3 mm longae, stramineae ad ferrugineae; gluma inferior ± obligue atque anguste lanceolata (explan.), dimidio angustiore rachillam spectante, basi auriculata, spiculae aequilonga, carina angustissime alata atque scaberula ornata, membranacea, paucis pilis sparsis mollis sat longis induta; gluma superior inferiori subsimilis sed lateribus aequalibus, basi rotundata; rachilla usque ad 1,5 mm longitudinem producta. *Anthoecium* singulum hermaphroditum glumis brevius, basi ± callosum ibique dense pubescens; lemma ellipticum ad ovato-ellipticum,

apice truncatum ad leviter emarginatum, mucrone 0,3 mm longa subpuberula instructum, totum 1,7-2 mm longum, 3-nervatum, praeter nervum centralem nervosque marginales dense pilosos glabrum, tenuiter membranaceum, subhyalinum, minutissime puncticulatum; palea oblonga, 1,4-1,7 mm longa, carinis duabus angustissime alatis subscaberulis percursa, glabra; lodiculae 2, minutae; stamina 3; ovarium glabrum. *Caryopsis* ignota.

Congo belge :

District du Haut-Katanga : Parc National de l'Upemba, région de Kanongo, lit de la riv. Kanonga, sur latérite, endroits très marécageux, févr. 1949, *Van Meel* in *G. F. de Witte* 5420; id., petit ruissellement tributaire de la riv. Lukanga, sur larges dalles de latérite, févr. 1949, *Van Meel* in *G. F. de Witte* 5457, 5458 (holotype BR), 5459, 5462, 5479, 5480.

Observation. — Les amples récoltes citées contiennent des spécimens à un racème court, mélangés à d'autres portant 2-3-(4) racèmes plus longs et digités; la longueur des épillets varie, dans ces deux formes, de 2 à 3 mm. Nous ne voyons pas la possibilité de séparer les formes à 1 racème du reste du matériel; il semble donc indiqué de ne pas attacher trop d'importance, pour la séparation des espèces du genre *Brachyachne*, au nombre de racèmes présents.

2. **Brachyachne obtusiflora** (Benth.) C. E. Hubbard, Kew Bull. 1933, p. 503.

Congo belge :

District de l'Ubangi-Uele : Tukpwo, mare sur dalle latéritique affleurante (pengbele), petite graminée sur dalle absolument nue et sèche, oct. 1951, *Ph. Gérard* 91; id., nov. 1954, *A. Blomme* 59; ± 15 km au Sud d'Ango, petite herbe cespiteuse sur dalle latéritique, nov. 1945, *R. Germain* 4334; environs de Bambesa, 1936, *Pittery* 853, 859.

Nigérie, Oubangui-Chari.

3. **Brachyachne upembaensis** Van der Veken, sp. nov.; *Br. chrysopelidi* C. E. Hubbard maxime affinis sed annua, spiculis minoribus, lemmate non mucronato paleaque glabra.

Gramen annuum, gracile, 40 cm altum. *Culmi* fasciculati, erecti vel leviter geniculati; graciles, teretes, simplices vel e nodo infimo

ramosi, glabri laevesque; nodi 5-6, glabri. *Foliorum* vaginae internodiis breviores, ± compressae, glabrae laevesque, ± purpureae; ligulae brevissimae, apice truncatae et laceratae, glabrae; laminae anguste lineares ad filiformes, usque ad 6 cm longae et 1 mm latae, costa media et utrinque costa marginali numerosisque nervis secundariis percursae, siccitate convolutae, marginibus laevibus, supra scaberulae et pilis sparsis mollis sat longis indutae. *Spica* solitaria, erecta, stricta, gracilis, 8-10 cm longa et 3-4 mm lata, straminea ad fulva; rachis ± applanata, 0,7 mm lata, marginibus hyalinis laevibus. *Spiculae* ovato-ellipticae, demum hiantes, 3-3,2 mm longae; gluma inferior inaequilateraliter elliptica, 3-3,1 mm longa, carina scaberula; gluma superior oblongo-elliptica, obtusa, 2,9-3 mm longa, dorso ± rotundata sed apicem basinque versus ± carinata ibique asperula; rachilla ad longitudinem 2 mm producta, subscaberula; lemma late oblongo-ellipticum, apice truncatum, non mucronatum, 2 mm longum, tenuiter membranaceum, nervo centrali et utrinque nervo marginali ornatum ibique dense ciliatum; palea lemmati subaequilonga, apice emarginata, hyalina, carinis duabus sublaevibus et glabris.

Congo belge :

District du Haut-Katanga : Parc National de l'Upemba, région de Kanonga, petit ruissellement tributaire de la rivière Lukanga sur larges dalles de latérite, févr. 1949, *Van Meel* in *G. F. de Witte* 5451 (holotype BR).

4. **Brachyachne fulva** Stapf, Hook. Ic. Plant., XXXI, tab. 3099 (1922).

Congo belge :

District du Haut-Katanga : Katanga, 1911, *Homblé* 21; Dikuluwe (terr. Kolwezi) steppe humide en contrebas de la colline de cuivre, après incendie, mai 1957, *P. Duvigneaud* 3117 B.

Observation. — D'après la description, *Br. fibrosa* C. E. Hubbard serait extrêmement proche et peut-être même non distinct de *Br. fulva* Stapf, qui est antérieur.

5. **Brachyachne kundelungensis** Van der Veken, sp. nov.; *Br. chrysolepidi* C. E. Hubbard affinis sed robustior, rachide racemi marginibus scaberulis, lemmate longiore breviter mucronato, palea

longiore carinis ciliolatis; a *Br. fulva* Stapf differt foliis glabris, racemo singulo, lemmate longiore breviter mucronato, palea longiore carinis ciliolatis percursa.

Gramen perenne, dense caespitosum, 35 cm altum. *Culmi* erecti, gracillimi, teretes sed ± striati (in sicco), glabri; nodi 2-3, glabri. *Foliorum* vaginae plerumque basales, ± carinatae, striatae, glabrae, ± purpureae; ligulae, 0,1-0,2 mm longae, glabrae; laminae angustissime lineares, siccitate convolutae, ad 24 cm longae, costa mediana et utrinque 2-3 nervis secundariis percursae, supra minutissime asperulae, infra atque marginibus laeves, glabrae. *Racemi* singuli, erecti, 6 cm longi, 0,4 cm lati, pallide straminei sed fulvescentes; rachis dorso applanata, 0,7-0,8 mm lata, marginibus scaberulis. *Spiculae* oblanceolatae, demum hiantes, 4,3-4,5 mm longa; gluma inferior ± inaequilateraliter et anguste lanceolata, apice obtusa, 4,2-4,4 mm longa, carina viridi scaberula ad subciliolata ornata; gluma superior oblongo- oblanceolata, apice obtusa, dorso ± rotundata sed apicem versus ± carinata et ibi scaberula, nervo purpureo-viridi percursa; lemma explanatum late oblongo-ovatum, apice rotundatum ad subtruncatum, mucrone brevissima 0,1 mm longa instructum, 3,7-4 mm longum, nervo centrali et utrinque nervo marginali praeditum, nervis dense pubescens; palea oblongo-elliptica (explan.) 3,3-3,5 mm longa, hyalina, carinis duabus ciliolatis percursa; stamina 3 antheris 1,3 mm longis; ovarium glabrum. *Caryopsis* ignota.

Congo belge :

District du Haut-Katanga : Partie Sud du plateau des Kundelungu, prairie naturelle sur sable en pente, plante dressée à souches vivaces, sept. 1954, *A. Schmitz* 4719 (holotype BR).

BROMUNIOLA Stapf & Hubbard.

Bromuniola Gossweileri Stapf & Hubbard, Kew Bull., 1926, p. 366, cum tab.

Congo belge :

District du Kasai : Kibunda, savane boisée, avril 1953, *H. Callens* 3999.

District du Bas-Katanga : Pastorale du Lomami, section Makanza, savane boisée, alt. 1100 m, dans l'ombre, sol sablonneux, graminée d'un mètre de haut, août 1948, *G. Kevers* B/166.

District du Haut-Katanga : Kapanga, forêt, févr. 1913, *Overlaet* 106; Tshisenge-Dilolo, pâturage de savane boisée, 1957, *Syberg* 48; Tilwizembe à l'E. de Kolwezi, galerie forestière, mai 1957, *P. Duvigneaud* 3084 B1.

Angola, Rhodésie du Nord.

Observation. — Végétativement cette espèce rappelle un peu les *Centotheca* mais les épillets montrent des affinités avec les *Bromus* et les *Uniola*, d'où le nom générique. Ce sont surtout les 3 glumes, les glumelles inférieures subulées et 7-nervées et les glumelles supérieures en forme de chapeau bicorne qui permettent de distinguer facilement cette espèce de toutes celles des trois genres cités. Le genre *Bromuniola* est classé dans le système de R. Pilger, parmi les *Festuceae-Festucinae* (2).

DIGITARIA Heister ex Fabricius.

Digitaria Evrardii Van der Veken, sp. nov. ; *D. siderograptae* Chiov. affinis, sed spiculis angustioribus, gluma superiore breviore, lemmate sterili ex toto piloso distincta; a *D. masambaense* Vanderyst differt rachide racemorum triquetra, spiculis majoribus, lemmate omnino pubescente.

Gramen annuum, gracile, 80 cm attingens. *Culmi* fasciculati, erecti sed basi ± geniculati, simplices, 40-80 cm alti, teretes, striati ad sulcato-striati (in sicco); nodi 2-5, glabri, nigricantes (in sicco). *Foliorum* vaginae internodiis longiores vel breviores, sublaxae, marginibus hyalinis, costa media nervisque secundariis striatae, dorso pilis numerosis sparsis basi tuberculatis indutae; ligulae scariosae, 0,3 mm longae sed pilis 1 m attingentibus dense fimbriatae; laminae lineares apicem versus longe sensimque acutatae, planae, 3-8 cm longae, 0,2-0,6 cm latae, marginibus cartilaginosis laevibus, costa media et utrinque 3-4 nervis secundariis subobsoletis percursae,

(2) R. Pilger, Das System der *Gramineae*, *Bot. Jahrb.*, LXXVI, p. 305 (1954).

supra et infra pilis sparsis albidis sat longis basi tuberculatis indutae. *Racemi* bini, alter sessilis, alter breviter pedunculatus, axilla pubescente, 3-18 cm longi, simplices; rachis triquetra, angulis angustis scaberulisque, glabra; pedicelli 3-nati, brevissimi 0,4 mm longissimi, 3-4 mm attingentes, subtriquetri, marginibus ± scaberulis, ± pubescentes, apice non dilatati sed coronulatim albo-barbati. *Spiculae* oblongo-ellipticae, apice acutae, 2,5-2,8 mm longae; gluma inferior omnino deest; gluma superior ovata, subhyalina, 1-1,3 mm, longa, nervis 3 apice anastomosantibus percursa, pilis albidis dimidium spiculae attingentibus obtecta; lemma sterile ovato-ellipticum, marginibus convolutis, membranaceum, 5 nervis equidistantibus ornatum, omnino pilis albidis subrigidis laevis acutis spiculam superantibus obtectum; palea sterilis ad squamam hyalinam 0,1-0,2 mm longam redacta; lemma fertile ovatum (explan.), 2,2-2,3 mm longum, tenuiter coriaceum et minute puncticulatum, 3-nervatum, pallidum; palea fertilis lemmati subsimilis sed paululo brevior et 2-nervia; lodiculae 2, minutae; stamina 3 antheris 1,5 mm longis; ovarium glabrum. *Caryopsis* ignota.

Congo belge :

District de l'Ubangi-Uele : Route Baya-Pandu, près de Seavolo, dalle latéritique, plante herbacée dressée, annuelle, 50 cm de haut, juill. 1957, *C. Evrard* 2485 (holotype BR).

HYDROTHAUMA C. E. Hubbard ([3]).

Hydrothauma manicatum C. E. Hubbard, Hook. Ic. Plant., XXXV, tab. 3458 (1957).

Congo belge :

District du Haut-Katanga : piste Lusinga-Mitwaba, N'Gose, mare étendue, sur latérite, mai 1949, *Van Meel* in *G. F. de Witte* 6332.

Rhodésie du Nord.

([3]) Genre oublié ou omis dans la clef de R. Pilger, où il devrait figurer à côté de *Sacciolepis* : *Bot. Jahrb.*, LXXVI, p. 359 (1954).

Observation. — Le spécimen récolté au Congo diffère un peu du type, entre autres par ses épillets atteignant 3 mm de long. De nouvelles récoltes de cette petite graminée aquatique, qui existe très probablement en plusieurs endroits du Haut-Katanga, permettront de vérifier s'il s'agit en réalité, comme nous le pensons maintenant, d'une simple variation due au milieu.

ORTHOCLADA P. Beauv.

Orthoclada africana C. E. Hubbard, Hook. Ic. Plant., XXXV, tab. 3419 (1940).

Congo belge :

District du Haut-Katanga : Sokele, forêt à *Marquesia, Brachystegia,* et *Oxytenanthera,* juill. 1951, *R. Desenfans* 1906; Élisabethville, savane sèche boisée, endroit ombragé, avril 1912, *J. Bequaert* 365; Élisabethville, muhulu, anciennes cultures, graminée dressée, abondant dans ses stations et assez dense, avril 1949, *A. Schmitz* 2283; 10 km S. E. d'Élisabethville, muhulu sur sol argileux rouge, géophyte rhizomateux formant des plages relativement denses, mars 1950, *A. Schmitz* 2750.

Rhodésie du Nord.

Observation. — Cette belle graminée montre des affinités avec les espèces du genre Centotheca et est classée, dans le Système des Graminées de R. Pilger ([4]), parmi les *Festuceae-Centothecinae.*

PHYLLORACHIS Trimen.

Phyllorachis sagittata Trimen, Journ. Bot., XVII, p. 355, tab. 205 (1879).

Congo belge :

District du Kasai : entre Merode et Hemptinne St Benoît, 1930, H. Vanderyst 23705.

Territoire du Tanganyika, Angola, Mozambique.

([4]) R. Pilger, Das System der *Gramineae, Bot. Jahrb.,* LXXVI, p. 311 (1954).

Observation. — La récolte que nous signalons ici étend consirablement l'aire de distribution connue de cette espèce apparemment peu récoltée.

La postition systématique du genre ne semble toujours pas tout à fait définie, mais en tous cas le genre est à classer dans une tribu séparée, les *Phyllorachieae* ([5, 6]), que Pilger range dans la sous-famille des *Festucoideae* ([7]).

Jardin Botanique de l'État,
février 1958.

([5]) C. E. Hubbard, *Hook. Ic. Plant.*, XXXIV, tab. 3386 (1936).
([6]) T. Tateoka, The Place of the Genus *Phyllorachis* in the System of *Gramineae*, *Botan. Mag. Tokyo*, LXIX, p. 83 (1956).
([7]) R. Pilger, *loc. cit.*, p. 292.

BULLETIN DU JARDIN BOTANIQUE DE L'ÉTAT BRUXELLES
SUPPLÉMENT

BULLETIN VAN DE RIJKSPLANTENTUIN BRUSSEL
BIJVOEGSEL

ENUMERATIO PLANTARUM AETHIOPIAE SPERMATOPHYTA

(Sequentia) (*)

VON

Dr. Georg CUFODONTIS,

Wien.

Sapium P. BROWNE 1756 (D.H. 4483).

Sapium ellipticum (HOCHST.) PAX 1912.

Sclerocroton ellipticum HOCHST. 1845; *Excoecaria Manniana* MUELL.-ARG. 1864; *E. abyssinica* MUELL.-ARG. 1865; *Sapium abyssinicum* (M.-A.) BENTH. ap. B. & H. 1880; *S. Mannianum* (M.-A.) BENTH. ap. B. & H. 1880.

Typus : *Krauss* 269 (Natal).

AETHIOPIA : W-E.A.GS. — AFRICA TROPICA : S-SuA. Ug.Con.Ta. Ny. Mo. Rh.An.OuC.Ch.Tho.Ca. Ni.To. SL. GuiF. — EXTRA AFRICAM TROPICAM : SO-S-Af.

Nomina indigena : bosocá, bosoka (galla), berberi-islamai (tigrinia).

Euphorbia L. 1753 (D.H. 4498).

Euphorbia abyssinica GMEL. 1791 (sect. *Euphorbium-Diacanthium*).

« Kol-qual » BRUCE 1790 (tab. ad p. 41); *Euphorbia officinarum* var. *kolquall* WILLD. 1799; *E. abyssinica* var. *tetragona* SCHWFTH

(*) Vide : *Bull. Jard. Bot. État Brux.*, XXIII, Suppl. déc. 1953 — XXIV, Suppl. juin 1954 — XXV, Suppl. juin et sept. 1955 — XXVI, Suppl. sept. 1956.

1899; *E. Candelabrum* var. *erythraeae* Berger 1907; *E. Erythraeae* (Berger) N. E. Br. 1912; *E. Candelabrum* var. (sine nomine) Pax & Hoffm. 1931; *E. aethiopum* Croizat 1941.

Euphorbia acrurensis Auct. non N. E. Br. : Jacobsen 1954.

Typus : *Bruce* (inter Samhar et M. Taranta).

Aethiopia : E.A? — Africa Tropica : O-Nu.

Nomina indigena : collquall, colqual, kolkoual, kolkual, kolquall, kolqual, koloukoual, kolukual (amhara et tigrinia), calancal, galangall, qalangal, qalanqal, qolunqual, qualanqal (tigre), to-hit (tobedayie), wâlal, olal (saho), hadami (galla).

Observationes. — 1. — Trunci ad domos exstruendos utiles, succo lacteo canistra impenetrabilia fiunt.

2. — Cum aliis speciebus eiusdem cycli saepe commutata.

Euphorbia acalyphoides Hochst. ex Boiss. in DC. 1862 (sect. *Eremophyton-Pseudacalypha).*

Tithymalus acalyphoides (H. ex Boiss.) Schwfth 1867; *Pseudacalypha acapyphoides* (H. ex Boiss.) Schwfth & Asch. 1867.

Syntypi : *Ehrenberg* (Togodele), *Schimper* 1753 (prov. Modat), 2294 (Gageros), *Kotschy* 88 (Arasch-Cool in Cordofan).

Aethiopia : E.O-A. — Africa Tropica : C-SuA.Cor. Dar.An? — Extra Africam : Ar.

Euphorbia acrurensis N. E. Br. 1912 (sect. *Euphorbium-Diacanthium*).

Euphorbia abyssinica Auct. non Gmel. : Schwfth 1899 p.p., Pax 1904 p.p. et forsan aliorum p.p.

Typus : *Schweinfurth* 1351 p.p., a. 1892 (prope Acrur).

Aethiopia : E.

Euphorbia aegyptiaca Boiss. 1860 (sect. *Anisophyllum-Chamaesyceae*).

Euphorbia Forskalii (var. *α* sine nomine) J. Gay ap. Webb & Berth. 1847 p. p. max.; *Anisophyllum aegyptiacum* (Boisss.) Schwfth & Asch. 1867.

Syntypi : *Boissier* (Esneh), *Kralik, Aucher-Eloy* 2033 (Thebae), *Kralik* (Daggeh in Nubia), *Kotschy* 155 (Cordofan), *Perrottet* (Senegal), *Webb* (Insulae Capitis Viridis).

Aethiopia : E.A.S.-SO? — Africa Tropica : C-N-SuA.Nu.Senr.Cor.Ta.SW-Con.An?SW-Af.Ca.Ni.SL.Senl.SuF. — Extra Africam Tropicam : CV.Aeg.Ar.Sin.Pal.Syr.

Observatio. — Boissier 1862 scripsit : « Nomen a cl. Gay propositum mutare debui, nam synonymon « *E. thymifolia* » Forskalii ad *E. scordifoliam* Jacq. spectat ».

Euphorbia agowensis Hochst. ex Boiss. in DC. 1862 (sect. *Tithymalus-Galarrhaei*).

Tithymalus agovensis (H. ex Boiss.) Schwfth 1867; *T. agowiensis* (H. ex Boiss.) Schwfth & Asch. 1867.

Syntypi : *Schimper* 1414, 2150 (Goelleb et Gageros in Agow), *Ehrenberg* (ad litora prope insulam Dhalac).

Aethiopia : E.A. — Africa Tropica : Senr.

Euphorbia arabica Hochst. & Steud. ex Boiss. in DC. 1862 (sect. *Anisophyllum-Chamaesyceae*).

Anisophyllum arabicum (H. & St. ex Boiss.) Schwfth 1867.

Syntypi : *Schimper* 756 (Ferihe), *Ehrenberg* (Wadi Djara), *idem* (Arkiko), *Schimper* 1272 (Abyss. interior, sine loco).

Aethiopia : E.SB. — Africa Tropica : S-C-SuA. Nu.NO-Ke. — Extra Africam Tropicam : Ar.

Euphorbia bilocularis N. E. Br. 1912 (sect. *Euphorbium-Diacanthium*).

Typus : *Scheffler* 335 (Kibwesi).

Aethiopia : S.SO.S-GS. — Africa Tropica : Ke.Ta.

Nomina indigena : darchen, darken, darkon (somali : Gelib).

Euphorbia Brunellii Chiov. 1951 (sect. incerta).

Typus : *Vatova* 1997 (Montes Goda-Bongdi).

Aethiopia : GS.

Euphorbia Cactus Ehrenb. ex Boiss. in DC. 1862 (Sect. *Euphorbium-Diacanthium*).

Euphorbia antiquorum α major articulata Forsk. 1775.

Euphorbia virosa Auct. non Willd. : Courbon 1862, Boiss. in DC. 1862 p.p., Schwfth & Asch. 1867; *E. abyssinica* Auct. non Gmel. : Martelli 1888.

Typus : *Ehrenberg* (Wadi Kamme in Arabia felice).

Aethiopia : E. — Extra Africam : S-Ar.

Nomina indigena : gholak, kaelah, kelah, kelach (arabice), wollebuh (tigre), kolkoual (tigrinia).

Euphorbia Candelabrum Trém. ex Kotschy 1857 (sect. *Euphorbium-Diacanthium*).

Euphorbia canariensis Auct. non L. : Trémaux 1862; *E. calycina* N. E. Br. 1911.

Syntypi : *Trémaux* (Dar Foq), *Kotschy* (Senr.).

Aethiopia : GS.SB. — Africa Tropica : SuA.Senr. Cor.Gh.

Nomen indigenum : quolquol (prob. amhara).

Euphorbia Chamaecormos Chiov. 1929 (sect. *Euphorbium-Diacanthium*).

Syntypi : *Stefanini & Puccioni* 700 (inter Dhur et Hossa-Uein), 747 (Hariri).

Aethiopia : NO-SO.

Euphorbia consobrina N. E. Br. 1911 (sect. *Euphorbium-Tirucalli*).

Syntypi : *Schweinfurth* 265 (M. Erkowit), 207 (Wadi Teeke inter Suakin et Berber).

Aethiopia : SB. (Daloh, *Bally* 10312; fide Bally in litt. 27.2.57). — Africa Tropica : O-Nu.

Euphorbia controversa N. E. Br. 1912 (sect. *Euphorbium-Diacanthium*).

Euphorbia abyssinica Auct. non Gmel. : Richard 1851, Boiss. in DC. 1862 p.p.

Syntypi : *Quartin-Dillon* (Mai-Gouagoua prope Adua), *Schimper* 934 (prov. Amhara, sine loco).

Aethiopia : E.A.

Nomen indigenum : kolquall (amhara et tigrinia).

Euphorbia crotonoides Boiss. in DC. 1862 (sect. *Eremophyton-Holstianae*).

Typus : *Kotschy* 419 (El-Obeid in Cordofan).

Aethiopia : GS. — Africa Tropica : Cor.Dar.Ch. C-SuA.Ug.Ta.Rh.Be.SW-Af.

Euphorbia cryptospinosa Bally, spec. nova ined.

Typus : *Bally* 9503 (Belesse-Cogani).

Aethiopia : SO.

Observatio. — Recepi hanc quia nomine praedita mox publici juris facta erit.

Euphorbia cuneata Vahl 1791 (sect. *Lyciopsis*).

Euphorbia Perrottetii Jaub. & Sp. 1855; *E. cuneata* var. *Carpasus* et var. *Perrottetii* (J. & Sp.) Boiss. in DC. 1862; *Lyciopsis cuneata* (Vahl) Schwfth 1867; *Euphorbia cuneata* f. *Perrottetii* (J. & Sp.) Terracc. 1894.

Typus : *Forskal* (Arabia felix, sine loco).

Aethiopia : E.SF.SB.SO. — Africa Tropica : O-Nu.Ke?NO-Ta.Za. — Extra Africam : S-Ar.

Nomina indigena : schauaka, sciauaka (tigre : Mensa), derender, derinder (somali : SB.).

Euphorbia depauperata Hochst. ex Rich. 1851 (sect. *Tithymalus-Galarrhaei*).

Tithymalus depauperatus (H. ex Rich.) Schwfth & Asch. 1867; *Euphorbia lepidocarpa* Pax 1903; etc., confer N. E. Brown 1911; prob. *E. ugandensis* Pax 1910.

Syntypi : *Schimper* 336, 1532 (M. Seleuda, vel Scholoda), *Quartin-Dillon* 84 (Wojerat).

Aethiopia : E.A.S.GS.H. — Africa Tropica : SO-SuA.Ke.Ug.Ta.Ny.Mo.Rh.N-Ca.

Nomina indigena : abandasch, abandesch, adandasch (tigrinia), zavá-nocche (tigre : Faghená).

Observatio. — Remedium praebent radices laxans, folia vermifugum.

— ssp. **aprica** Pax 1907.

Typus : *Rosen* (Akaki).

Aethiopia : S-S.

— var. **pubescens** Pax 1897.

Typus : *Ruspoli & Riva* 1360 [1293] (inter Biddume et Alghe).

Aethiopia : GS.

Euphorbia dilatata Hochst. ex Rich. 1851, non E. Mey. ap. Drége 1844 nom. nud. (sect. *Tithymalus-Esulae*).

Tithymalus dilatatus (H. ex Rich.) Kl. & Gke 1860.

Euphorbia Schimperiana Auct. non Scheele : N. E. Br. 1911 p.p. min. (quoad *Schimper* 543).

Typus : *Schimper* 543 (Endschetcab ad M. Bachit).

Aethiopia : A.

Observatio. — Species *E. Schimperianae* maxime quidem affinis, tamen fide cl. Pichi Sermolli 1951 distincta.

Euphorbia disclusa N. E. Br. 1912 (sect. *Euphorbium-Diacanthium*).
Euphorbia Candelabrum Auct. non Trém. ex Kotschy : Berger 1907.
Typus : cultus in Horto Kewensi, prob. ex Erythraea.
Aethiopia : prob. E. (Acrur, *Schweinfurth* 1351 p.p., a. 1892; fide N. E. Br. 1912).

Euphorbia Ellenbeckii Pax 1903 (sect. *Euphorbium-Diacanthium*).
Typus : *Ellenbeck* 2099 (Tarro-Gumbi in Boran).
Aethiopia : S-H.

Euphorbia Engleri Pax 1895 (sect. *Tithymalus-Esulae*).
Euphorbia pseudo-Engleri Pax 1909.
Typus : *Volkens* 847 (Marangu ad M. Kilimandscharo).
Aethiopia : S-SO. (Bur-Eibi, *Paoli* 1144/bis, *Stefanini* 1293; fide Chiov. 1916). — Africa Tropica : Ke.Ug.N-Ta.
Nomen indigenum : ghedarar (somali-rahanuin).

Euphorbia Erlangeri Pax 1903 (sect. *Euphorbium-Diacanthium*).
Typus : *Ellenbeck* 2218 (Arbarone vel Abrona in Garra-Libin).
Aethiopia : SO.

Euphorbia giumboënsis Hässler 1931 (sect. *Tithymalus-Trichadenia*).
Typus : *Scassellati* V/48 (Giumbo).
Aethiopia : S-SO.

Euphorbia glochidiata Pax 1897 (sect. *Euphorbium-Diacanthium*).
Typus : *Ruspoli & Riva* 1122 [336] (Ueb-Karanle).
Aethiopia : H.W-S-SO.
Nomen indigenum : gahar (somali : prope flumen Juba).

Euphorbia golisana N. E. Br. 1911 (sect.*Euphorbium-Diacanthium*).
Typus : *Drake-Brockman* 300 (M. Golis).
Aethiopia : SB.

Euphorbia Gorinii Chiov. 1932 (prob. sect. *Tithymalus-Galarrhaei*).
Typus : *Gorini* 466 (El-Ualud in Transjuba).

AETHIOPIA : S-SO.

Observatio. — Fide auctoris accedit ad *E. eremophilam* CUNN.

Euphorbia gossypina PAX 1894 (sect. *Tithymalus-Galarrhaei*).

E. implexa STAPF 1908.

Typus : *Fischer* 514 (Kagehi ad lacum Victoriae).

AETHIOPIA : N-H.SB.NO-S-SO. — AFRICA TROPICA : Ke.Ug.N-Ta.

Nomina indigena : én (somali : SB.), kimtschin (amhara).

Euphorbia grandicornis GOEBEL 1889 (sect. *Euphorbium-Diacanthium*).

prob. *Euphorbia crispata* LEM. 1857, non HORNEM. 1813; *E. breviarticulata* PAX 1904; *E. grandidentata* et *E. grandilobata* CHIOV. 1932.

Euphorbia grandidens AUCT. non HAW. : GOEBEL 1889 sub fig. 15 (sphalm.).

Typus : (fide WHITE, ALLEN & BOYD 1941) *Stone* vel *Marriott* (cultus in Horto Kewensi, ex Zululand in Natal).

AETHIOPIA : SB.S-SO.GS. — AFRICA TROPICA : Ke. N-Ta.Mo. — EXTRA AFRICAM TROPICAM : Natal.

Nomina indigena : galoli (somali et rahanuin : Giumbo), dibu (somali : SB.).

Observatio. — Apud GOEBEL 1889 nulla diagnosis sed icon tantum speciminis sterilis apparuit, quare mea ratione nomen *E. breviarticulata* PAX recipiendum esset. Huius typus est *Engler* 1184/b (Kwai in Usambara).

Euphorbia grandis LEM. 1857 (sect. *Euphorbium-Diacanthium*).

Euphorbia Richardiana BAILL. 1860; *E. neutra* BERGER 1907.

Euphorbia abyssinica AUCT. non GMEL. : LEM. 1857, BOISS. in DC. 1862 p.p., PAX 1904 p.p., GILLILAND 1952, et forsan aliorum p.p. saltem.

Typus : *Quartin-Dillon & Petit* (cultus in Horto Parisiensi, ex Abyssinia, sine loco).

AETHIOPIA : E. vel A.SB.

Nomina indigena : hasadin, hassadin (somali : SB.).

Euphorbia granulata FORSK. 1775 (sect. *Anisophyllum-Chamaesyceae*).

Euphorbia fragilis DECNE 1834; *E. Forskalii* var. *granulata*

(Forsk.) et var. *hirtula* Gay ap. Webb & Berth. 1847; *Anisophyllum Forskalii* (Gay) Kl. & Gke 1860; *A. granulatum* (Forsk.) Schwfth 1867.

Syntypi : *Forskal* (Lohaja et Hadie).

Aethiopia : E.A.H.SB.SO. — Africa Tropica : N-C-SuA.Nu.Cor.Dar.Senr.An. — Extra Africam Tropicam : CV.Can.Sah.Eu.Aeg.Ar.Sin.Afg.Bel.NW-Ind.

Nomina indigena : ghed-anole (somali : Goscia), kabagois (som.: O-SB.), lebbejn, melaebene (arabice).

Observatio. — Multis locis forte illata, e.g. in Eu.

— var. **dentata** N. E. Br. 1911.

Syntypi : *Ellenbeck* 724 (Harar), *Wellby* (prope lacum Rudolphi).

Aethiopia : H.S-SO. — Africa Tropica : NO-Ke.

— var. **glabrata** (Gay) Boiss. in DC. 1862.

Euphorbia Forskalii var. *glabrata* Gay ap. Webb & Berth. 1847.

Syntypi : *Aucher-Eloy* 5304 (Mascate), *Botta* (Haiz, Djedda), *Schimper* 754 (Djedda), *Kotschy* 69 (Abu-Gerad in Cordofan).

Aethiopia : E.A?SB. — Africa Tropica : N-C-SuA. Nu.Cor.Senr.S-Ch. — Extra Africa : Ar.NW-Ind.

Nomina indigena : lébbena, um-el-lubben (arabice).

Euphorbia Grosseri Pax 1903 (sect. *Tithymalus-Trichadenia*).

Euphorbia socotrana Auct. non Balf. : Mattei 1908, Senni 1935.

Syntypi : *Ellenbeck* 1163 (Wabi-Budugo), 2151 (« Malsare », recte Malcaré prope Dolo).

Aethiopia : H.CO-S-SO.

Nomina indigena : engir (somali : Giumbo et Osboda), uanle (rahanuin : Baidoa), dalmoc, domoc, domok (somali : Giumbo).

Euphorbia hadramautica Baker 1894 (sect. *Rhizanthium*).

Euphorbia oblongicaulis Baker 1895.

Typus : *Lunt* (Bir-Backban in Hadramaut).

Aethiopia : NO-W-SO. — Extra Africam : SO-Ar.

Euphorbia hararensis Pax 1907 (sect. *Euphorbium-Diacanthium*).

Typus : *Rosen* (Karssa prope Harar).

Aethiopia : H.

Observatio. — Specie valde imperfecte e photographia tantum nota.

Euphorbia hirta L. 1753 (sect. *Anisophyllum-Hypericifoliae*).

Euphorbia pilulifera L. 1753 p.p.; *E. obliterata* Jacq. 1760; *E. capitata* Lam. 1786; *E. ophthalmica* Pers. 1807; *E. procumbens* DC. 1813, non Mill. 1768; *E. gemella* Lag. 1816; *E. globulifera* H. B. K. 1817; *E. nodiflora* Steud. 1840 nom. nud.; *E. pilulifera* var. *procumbens* Boiss. in DC. 1862; *E. hirta* var. *procumbens* (Boiss.) N. E. Br. 1911.

Typus : *Burmann* (Ceylona).

Aethiopia : E.SB.S. et certe alibi — Africa Tropica : fere ubique. — Extra Africam Tropicam : SO-Af. et fere ubique in regionibus tropicis et subtropicis.

Observatio. — Ubi huius speciei hodie per totum orbem diffusae patria vera quaerenda sit, dubium manet.

Euphorbia hypericifolia L. 1753 (sect. *Anisophyllum-Hypericifoliae*).

prob. *Euphorbia pilulifera* L. 1753 p.p.; *E. granulata* var. *decumbens* Forsk. 1775; *E. indica* Lam. 1786; *E. decumbens* Willd. 1813; *E. hypericifolia* var. *pubescens* Rich. 1851; *E. indica* var. *angustifolia* Boiss. in DC. 1862; *Anisophyllum indicum* (Lam.) Schweth 1867.

Syntypi : ex India orientali et occidentali.

Aethiopia : E.A.S.H.SO. — Africa Tropica : fere ubique. — Extra Africam Tropicam : origine palaeotropica et saepe advena alibi.

Nomina indigena : ghed-anod, ghetano (somali : S-SO.), melaebene (arabice).

Euphorbia impressa Chiov. 1929 (sect. *Anisophyllum-* prob. *Chamaesyceae*).

Typus : *Basile* 96 (ad flumen Uebi-Scebeli superius).

Aethiopia : H.

Euphorbia inaequalis N. E. Br. 1911 (sect. *Anisophyllum-Chamaesyceae*).

Typus : *Cole* (Somalia Britannica, sine loco).

Aethiopia : SB.

Euphorbia inaequilatera Sonder 1850 (sect. *Anisophyllum-Chamaesyceae*).

Euphorbia sanguinea Hochst. & Steud. ex Boiss. in DC. 1862; *E. s.* var. *intermedia*, var. *natalensis* et var. *setigera* Boiss. in DC.

1862; *Anisophyllum sanguineum* (H. & St. ex Boiss.) Schwfth 1867.

Typus : *Gueinzius* 167 (Port Natal).

Aethiopia : E.A.GS.H.SB. — Africa Tropica : O-Nu. Senr.Cor.Ke.Ug.Ta.RU.Ny.An.SW-Af.Tr. — Extra Africam Tropicam : SO-Af.S-Af.Aeg.Ar.Afg?

Euphorbia inaequispina N. E. Br. 1911 (sect. *Euphorbium-Diacanthium*).

Typus : *Robecchi-Bricchetti* 283 (ad flumen Uebi-Scebeli).

Aethiopia : SB.C-SO.

Nomina indigena : gabó-jarjar (somali : Uebi-Scebeli), abera (som. : Belet-Uen), dadan (som. : Hargeisa in SB.).

Euphorbia infausta N. E. Br. 1912 (sect. *Euphorbium-Diacanthium*).

Euphorbia polyacantha Auct. non Boiss. : Penzig 1893, Schweinfurth 1893, 1899, Engler 1910, Fiori 1911, 1912, 1916, Pax & Hoffmann 1931 p.p., Jacobsen 1954 p.p.; *E. Thi* Auct. non Schwfth : Pax 1904 p.p. (quoad Schwfth 1248), Fiori 1911, Engler 1921, prob. Hutch. & Br. 1941.

Syntypi : *Schweinfurth* 1008, 1694 (Acrur), 1094, 1233, 1248, 1438 (Geleb).

Aethiopia : E.SB. — Africa Tropica : O-Nu.

Nomina indigena : dibu (somali : SB.), masebah (tigrinia : Acrur), ssâam, ssaán (tigre : Mensa), mars, mersi (amhara).

Euphorbia jatrophoides Pax 1903 (sect. *Lyciopsis*).

Syntypi : *Ellenbeck* 1081 (inter Aroris et Rufa), 1161 (inter flumen Wabi et Budugo).

Aethiopia : H.

Euphorbia Kelleri Pax 1898 (sect. *Lyciopsis-Espinosae*).

Typus : *Keller* 224 (Abdallah).

Aethiopia : W-SO.

— var. **latifolia** Pax 1898.

Typus : *Keller* 222 (Abdallah).

Aethiopia : W-SO.

Euphorbia Lathyris L. 1753 (*E.* « *Lathyrus* ») (sect. *Tithymalus-Decussatae*).

Tithymalus Lathyris (L.) Hill 1768.

Syntypi : ad agrorum margines in Gallia, Italia.

AETHIOPIA : S. — EXTRA AFRICAM : Eu.Med.Can.As. calidior.Chi.Az.N-Am.S-Am.

Observatio. — In Med. indigena, alibi passim illata.

Euphorbia leucochlamys CHIOV. 1929 (sect. *Tithymalus-Galarrhaei*).

Typus : *Stefanini & Puccioni* 939 (inter Ńogal et Darror : inter Bio-Godat et Saha-Gioghen).

AETHIOPIA : SB.NO-SO.

Nomen indigenum : aincher (somali : O-SB.).

Euphorbia longecornuta PAX ap. ENGLER 1892 (sect. *Tithymalus-Esulae*).

Euphorbia longicornuta PAX 1897 (sphalm.).

Typus : *Schimper* s.nr. (inter Gerra-Abuna-Tekla-Haimanot et flumen Reb).

AETHIOPIA : A.GS.H. — AFRICA TROPICA : Ke.Ug.Ta. RU.Ny.

Observatio. — *E. Schimperianae* valde affinis et hac de causa ab ENGLER 1921 et PAX & HOFFMANN 1931 Arabiae addicta, ubi fide SCHWARTZ 1939 re vera deest.

Euphorbia longetuberculosa HOCHST. ex BOISS. in DC. 1862 (sect. *Rhizanthium*).

Euphorbia longetuberculata BOISS. 1866 (p. 1264, sphalm.); *Tithymalus Braunii* SCHWFTH 1863; *Medusea longetuberculosa* (BOISS.) SCHWFTH & ASCH. 1867.

Syntypi : *Schimper* 2307 (Gurrsarfa), 221 (Goelleb).

AETHIOPIA : O-A.SB.S-SO. — EXTRA AFRICAM : S-Ar.

Nomen indigenum : ged-ambar (somali : Afard in SB.).

Euphorbia longispina CHIOV. 1929 (sect. *Euphorbium-Diacanthium*).

Typus : *Stefanini & Puccioni* 442 (inter Durgale et Attodi prope Obbia).

AETHIOPIA : O-SO.

Euphorbia lyciopsis PAX 1895 (sect. *Lyciopsis*).

Typus : *Volkens* 1781 (Dschalla-See ad M. Kilimandscharo).

AETHIOPIA : SB. (inter Burao et Sheik, *Bally* 9658; fide BALLY in litt. 27.2.57). — AFRICA TROPICA : Ke.N-Ta.

Euphorbia matabelensis Pax 1901 (sect. *Lyciopsis*).
Euphorbia Jaegeriana Pax 1909.
Typus : *Gibbs* 24 (Matopo Hills in S-Rh.).
Aethiopia : O-SO. (Magghiole et inter Adani et Uarandi prope Obbia, *Stefanini & Puccioni* 478, 499; fide Chiov. 1929). — Africa Tropica : Ta.Ny.Rh.
Observatio. — Specimina somalica diligentius comparanda.

Euphorbia mbaluensis Pax 1904 (sect. *Euphorbium-Diacanthium*).
Typus : *Engler* 1472/c (Mbalu in Usambara).
Aethiopia : S-SO. (inter Haboba et Sacú, *Paoli* 534; fide Chiov. 1916, confer tab. 23, fig. B). — Africa Tropica : NO-Ta.
Observatio. — Brenan 1949 (Tang. Check-List) hanc ad *E. Nyikae* spectare coniecit. Specimen somalicum exacte comparandum.

Euphorbia Menelikii Pax 1907 (sect. *Euphorbium-Diacanthium*).
Typus : *Rosen* (Gennet in S-S.).
Aethiopia : S-S.
Observatio. — Species imperfecte e photographia tantum nota.

Euphorbia Migiurtinorum Chiov. 1929 (sect. *Euphorbium-Diacanthium*).
Typus : *Stefanini & Puccioni* 801 (Biaddo in Migiurtinia).
Aethiopia : NO-SO.

Euphorbia monacantha Pax 1903 (sect. *Euphorbium-Diacanthium*).
Euphorbia xylacantha Pax 1904.
Euphorbia triacantha Auct. non Ehrenb. ex Boiss. : Pax 1897.
Typus : *Ellenbeck* 1974 (Gorobube in Galla-Arussi).
Aethiopia : SB.H. — Africa Tropica : O-Nu.
Nomen indigenum : donedugh (somali : Duwi-Pass in SB.), delanya-durh (som. : SB.).

Euphorbia napoides Pax 1897 (sect. *Rhizanthium*).
Typus : *Ruspoli & Riva* 1106 [419] (Ueb-Karanle).
Aethiopia : SO.SB.
Observationes. — 1. — Brown 1911 loco exsiccati citati *Rusp. & Riva* 1002 memoravit.
2. — *E. hadramauticae* Bak. arcte affinis.

Euphorbia neglecta N. E. Br. 1912 (sect. *Euphorbium-Diacanthium*).

Euphorbia abyssinica Auct. non Gmel. : Berger 1907 p.p.

Typus : cultus in Horto Kewensi (patria ignota, sed prob. ex Abyssinia).

Aethiopia : prob. Abyssinia, sine loco.

Euphorbia nigrispina N. E. Br. 1911 (sect. *Euphorbium-Diacanthium*).

Euphorbia inarticulata Auct. non (Forsk.) Schwfth 1899 : Pax 1904.

Typus : *Ruspoli & Riva* 929 (Ueb-Karanle).

Aethiopia : SB.W-SO.

Nomen indigenum : dibu (somali : SB.).

Observatio. — Consensu auctorum recentiorum *E. inarticulata* tantummodo in Arabia viget.

Euphorbia noxia Pax 1894 (sect. *Tithymalus-Trichadenia*).

Typus : *Hildebrandt* 870 (M. Ahl).

Aethiopia : SB.NO-SO.

Nomina indigena : falanfelcho (somali : M. Ahl), de-erh (som. : Carin in NO-SO.).

Observatio. — Succo sagittarum acumina venenata parantur.

Euphorbia nubica N. E. Br. 1911 (sect. *Euphorbium-Tirucalli*).

Euphorbia Schimperi Auct. non Presl : auctorum fere omnium quoad specimina africana.

Syntypi : *Bent* (ad litora Nubiae), *Schweinfurth & Riva* 1083 (Acrur).

Aethiopia : E.A.GS.S.H.SB.N-SO. — Africa Tropica : C-S-SuA.Nu.Dar.

Nomina indigena : ergin (somali : Hargeisa), ererr, gennschip, ginscheb (tigrinia).

Observatio. — *E. Schimperi* Presl in Ar. endemica proxime affinis et valde similis, quacum nostra saepe commutata est.

Euphorbia Nyikae Pax 1895 (sect. *Euphorbium-Diacanthium*).

Euphorbia Bussei Pax 1903; *E. Neovolkensii* Pax 1904.

Typus : *Volkens* 51 (Nyika-Steppe).

Aethiopia : W-SO. (Ueb-Karanle, *Ruspoli & Riva* 983[431]; fide Pax 1897). — Africa Tropica : Ke.N-Ta.Za.RU.O-Con.

Observatio. — Brown 1912 opinatus est specimen citatum e Somalia ad aliam speciem spectare, ipse autem in GS. prope Mega plantas vidi cum iconibus *E. Nyikae* optime convenientes (confer Miss. Biol. Borana, IV : fig. 116. 1939).

Euphorbia obovalifolia Rich. 1851 (sect. *Euphorbium-Diacanthium*).

Euphorbia amplophylla Pax 1897.

Euphorbia abyssinica Auct. non Gmel. : Engler 1892, Pax 1904 p.p. min. (quoad *Schimper* 793).

Syntypi : *Quartin-Dillon* (prov. Choho et Chiré).

Aethiopia : E.A.GS.

Nomina indigena : kulgwal, quolquol (amhara).

Observatio. — Succus taenifugus.

Euphorbia Peplus L. 1753 (sect. *Tithymalus-Esulae*).

Tithymalus Peplus (L.) Gärtner 1791.

Syntypi : in Europae cultis oleraceis.

Aethiopia : E. — Africa Tropica : O-Su.Tho.Tr. — Extra Africam Tropicam : SO-S-Af.Can.Mda.N-Af.Aeg. Eu.Ana.Syr.Sin.Ar.Per.NW-Ind.W-N-As.N-Am.

Observatio. — Probabiliter in Med. indigena, hodie late diffusa et ruderalis subcosmopolita.

Euphorbia Petitiana Rich. 1851 (sect. *Tithymalus-Esulae*).

Euphorbia cerebrina Hochst. ex Boiss. in DC. 1862; *Tithymalus Petitianus* (Rich.) Kl. & Gke 1860; *Tithymalus cerebrinus* (H. ex Boiss.) Schwfth 1867.

Typus : *Petit* (Ouogerate).

Aethiopia : E.A.H. — Extra Africam : Ar.

Nomina indigena : endorh-dorhen, hendekueduk (tigrinia), handugdug, handukduk (tigrinia et amhara), jegghedeb-amarit (amhara).

Euphorbia Phillipsiae N. E. Br. 1903 (sect. *Euphorbium-Diacanthium*).

Typus : *Lort-Phillips* (cultus in Horto Cantabrigiensi, ex SB.).

Aethiopia : SB.

Euphorbia Pirottae Terracc. 1894 (sect. *Tithymalus-Galarrhaei*).

Typus : *Terracciano* (insula Midir in sinu Amfilah).

AETHIOPIA : E.

Observatio. — Fide HÄSSLER 1931 arcte affinis *E. agowensi* H. ex BOISS.

Euphorbia polyacantha BOISS. 1860 (sect. *Euphorbium-Diacanthium*).

Euphorbia tetragona AUCT. non HAW. : RICH. 1851, BECK 1888.

Syntypi : *Schimper* 1790 [non 1264] (Djeladjekanne), *Quartin-Dillon* (Ouogerate).

AETHIOPIA : W-E.H. — EXTRA AFRICAM : Ar.

— ssp. **Rosenii** PAX 1907.

Euphorbia polyacantha var. *Rosenii* (PAX) N. E. BR. 1912.

Typus : *Rosen* (Haramaja prope Harar).

AETHIOPIA : H.

Euphorbia polycnemoides HOCHST. ex BOISS. in DC. 1862 (sect. *Anisophyllum-Chamaesyceae*).

Anisophyllum polycnemoides (H. ex BOISS.) KL. & GKE 1860.

Syntypi : *Schimper* 1500 (Abyssinia, sine loco), *Kotschy* 302 (El-Obeid in Cordofan).

AETHIOPIA : E.A.SB. — AFRICA TROPICA : C-S-SuA. Cor.Ds.Senr.Gh.Ta.Ny.N-Ca.N-Ni.GC.SuF. — EXTRA AFRICAM : Ar.

Euphorbia propinqua R. BR. (ap. SALT 1814 nom. nud.) ex N. E. BR. 1911 (sect. *Anisophyllum-Chamaesyceae*).

Typus : *Salt* (Abyssinia, sine loco).

AETHIOPIA : prob. E.

Observatio. — Proxime affinis *E. polycnemoides* H. ex BOISS.

Euphorbia prostrata AIT. 1789 (sect. *Anisophyllum-Chamaesyceae*).

Euphorbia callitrichoides et *E. tenella* H. B. K. 1817; *E. perforata* GUSS. 1827; *E. trichogona* BERTOL. 1844.

Typus : cultus in Horto Kewensi, ex India occidentali.

AETHIOPIA : E. — AFRICA TROPICA : fere ubique — EXTRA AFRICAM TROPICAM : SO-S-Af.Mad.Mas.CV.Can. S.-Eu.Am.trop.

Observatio. — Species indigena in Am. trop. nunc plurimis locis in orbem veterem illata et efferata.

Euphorbia pseudofalcata Chiov. 1951 (sect. *Tithymalus-Esulae*).
Typus : *Vatova* 2506 (planities Enda-Corcos in Uoggerat).
Aethiopia : CW-E.

Euphorbia pseudo-Holstii Pax 1903 (sect. *Eremophyton-Holstianae*).
Typus : *Ellenbeck* 2067 (Boranaland, sine loco).
Aethiopia : S-H.SW-SO.SB.
Nomen indigenum : én (somali : SB.).

Euphorbia repetita Hochst. ex Rich. 1851 (sect. *Tithymalus-Esulae*).
Tithymalus repetitus (H. ex Rich.) Kl. & Gke 1860; *Euphorbia Brevicornu* Pax 1909.
Syntypi : *Petit* (prov. Ouogerate et Choa), *Schimper* II/1281 (Wogera vel Fogherá).
Aethiopia : E.A.H.S. — Africa Tropica : Ke.
Nomen indigenum : antarfa (amhara).

Euphorbia Rivae Pax 1897 (sect. *Anisophyllum-Chamaesyceae*).
Typus : *Ruspoli & Riva* 94 (inter Surro et Rogono).
Aethiopia : GS. — Africa Tropica : Ke.

Euphorbia Robecchii Pax 1897 (sect. *Euphorbium-Diacanthium*).
Syntypi : *Robecchi-Bricchetti* 332, 370 (Ogaden), *Ruspoli & Riva* 1169 (Milmil).
Aethiopia : SB.SO.
Nomina indigena : cadebi (somali : Handere in S-SO.), darkain, durkain (som. : SB.).

Euphorbia rubella Pax 1903 (sect. *Rhizanthium*).
Typus : *Ellenbeck* 954 (Djebel-Haquim).
Aethiopia : H. — Africa Tropica : Ke.

Euphorbia Ruspolii Chiov. 1916 (sect. *Euphorbium-Diacanthium*).
Euphorbia Robecchii Auct. non Pax : Pax 1904 p.p. min (quoad *Rusp. & Riva* 1061).
Typus : *Paoli* 925 (Aden-Caboba).
Aethiopia : W-S-SO.GS?
Nomen indigenum : dark-ein (somali : Aden-Caboba).

Euphorbia Sacchii Chiov. 1916 (sect. *Tithymalus-Trichadenia*).
Typus : *Paoli* 989 (inter Godobei et Goddere).
Aethiopia : S-SO.

Euphorbia sancta Pax 1907 (sect. *Euphorbium-Diacanthium*).

Syntypi : *Rosen* (Deru in Tschertscher [Chercher], in luco sacro Jagallo in Godjam et alibi culta circa templa).

Aethiopia : N-H.S?A.

Observatio. — Male nota species e photographia tantum.

Euphorbia Scheffleri Pax 1909 (sect. *Tithymalus-Trichadenia*).

Euphorbia monocephala Pax 1909.

Euphorbia somalensis Auct. non Pax : Pax 1897 et N. E. Br. 1911 p.p. min. (quoad *Ruspoli & Riva* 1075 [325]).

Typus : *Scheffler* 104 (Kibwezi in Ukambani).

Aethiopia : H.W-SO. — Africa Tropica : Ke.N-Ta.

Euphorbia Schimperiana Hochst. ex Scheele 1843 (sect. *Tithymalus-Esulae*).

Euphorbia monticola Hochst. ex Rich. 1851, non Boiss. 1846; *Tithymalus Schimperianus* (H. ex Sch.) et *T. Hochstetterianus* Kl. & Gke 1860; *Euphorbia ampla* Hook. f. 1862; *Tithymalus monticolus* (H. ex Rich.) Schwfth 1867; *Euphorbia variegata* Defl. 1889; *E. Hochstetteriana* Pax 1894; *E. Hochstetteri* Pax ex Engl. 1910 (sphalm.).

Euphorbia esula Auct. non L. : Forsk. 1775.

Typus : *Schimper* 897 (Haddam in planitie M. Carae in Arabia petraea).

Aethiopia : E.A.GS.S.H.SB? — Africa Tropica : O-S-SuA.Senr.Ke.Ug.Ta.Ny.Rh.Mo.SO.-Ni. — Extra Africam : S-Ar.

Nomina indigena : endorh-dorhen (agau), hendekueduk (tigrinia), handugdug, handukduk (tigrinia et amhara), anderfa, anterffa, anterret (amhara), ghensceb (Ghinda et Dongollo), subaesib, ssubesse (arabice).

Observatio. — Ad usum veterinarium et pro remedio in morbos venereos adhibetur.

— var. **trilobata** Chiov. 1940.

Typus : *Senni* 1070 (inter Doukan et Addas).

Aethiopia : S.

Euphorbia schizacantha Pax 1898 (sect. *Euphorbium-Diacanthium*).

Typus : *Ruspoli & Riva* 764 [544] (Elba ad flumen Ueb-Ruspoli).

Aethiopia : SW-S-SO.

Euphorbia scoparia N. E. Br. 1911 (sect. *Euphorbium-Tirucalli*).

Euphorbia Tirucalli Auct. non L.: Schweth 1899, Senni 1905, Fiori 1911, Giordano 1940 p.p., Andrews 1952; *E. Schimperi* Auct. non Presl: Engler 1892 p.p. (quoad *Schimper* 896).

Syntypi: *Schweinfurth* 345 (Mai-Mafales), *Schimper* 896 (Schahagenne), *Muriel* 67 (Dakila prope Roseires).

Aethiopia: E.A?SB. — Africa Tropica: C-O-SuA. Senr.Cor.

Nomina indigena: conceb, qontscheb (trigrinia), mirhig, mirhigyer (somali: SB.).

Observatio. — Arcte affinis *E. Tirucalli* L.

Euphorbia scordifolia Jacq. 1786-93, 1796 (sect. *Anisophyllum-Chamaesyceae*).

Euphorbia tomentosa Pers. 1807; *Anisophyllum scordifolium* (Jacq.) Kl. & Gke 1860.

Euphorbia thymifolia Auct. non L.: Forsk. 1775 et forsan aliorum.

Typus: cultus in Horto Vindobonensi, forsan ex Africa.

Aethiopia: E.A.SB. — Africa Tropica: S-SuA.Senr. Cor. Dar. Nu. N-Ni.IC.SL.Senl.SuF.Maurit. — Extra Africam Tropicam: CV.Ar.

Nomen indigenum: rummid (arabice).

Observatio. — Succi guttae paucae cum lacte haustae laxans medicina.

Euphorbia seclusa N. E. Br. 1911 (sect. *Anisophyllum-Chamaesyceae*).

Typus: *Schweinfurth & Riva* 612 (Amba-Tokham).

Aethiopia: E.

Euphorbia Sennii Chiov. 1932 (sect. *Tithymalus-Galarrhaei*).

Typus: *Senni* 650 (Garosellei).

Aethiopia: S-SO.

Nomen indigenum: engir (somali: loco typi).

Observatio. — Fide auctoris *E. gossypinae* Pax affinis.

Euphorbia somalensis Pax 1897 (sect. *Tithymalus-Trichadenia*).

Typus: *Ruspoli & Riva* 345 [210] (Milmil).

Aethiopia: SB.SO.

Nomina indigena : engir (somali : Oddur), hengir (som. : Obbia), falla-falla (som. : Duwi in SB.).

Observatio. — Fide Hässler 1931 speciminum ceterorum a Pax 1897 citatorum e regione fluminum Ganane et Ueb-Ruspoli primum *Rusp. & Riva* 832 [623] est indeterminabile, alterum *Rusp. & Riva* 1075 [325] ad *E. Scheffleri* spectat.

— var. **nogalensis** Hässler 1931.

Euphorbia somalensis Auct. non Pax : Chiov. 1929 p.p.

Syntypi : *Cavalli* s.nr. (Nogal, sine loco), *Stefanini & Puccioni* 869 (inter Balli-Iglole et Bei-Dagoi in valle Nogal).

Aethiopia : NO-SO.

Euphorbia spinescens Pax 1894 (sect. *Lyciopsis*).

Typus : *Fischer* 524 (Massai-Steppe [« Massaini »], sine loco).

Aethiopia : SO.SB. — Africa Tropica : Ke?N-Ta.

Nomina indigena : darinder, dirinder, dirindi, dirindir (somali).

Euphorbia Stapfii Berger 1907 (sect. *Euphorbium-Diacanthium*).

Typus : *E. Brown* 227 (cult. in H. Kew., ex Entebbe in Ug.).

Aethiopia : GS. (Yavello, *Bally* 9251; fide Bally in litt. 27.2.57). — Africa Tropica : Ug.

Observatio. — Proxime affinis *E. heterochromae* Pax 1895, quacum eam conjunxit cl. N. E. Brown 1911, sed fide Pax & Hoffmann 1931 potius distincta habenda.

Euphorbia systyla Edgew. 1847 (sect. *Eremophyton-Holstianae*).

Typus : *Edgeworth* (Aden).

Aethiopia : SB. — Extra Africam : S-Ar.

Nomen indigenum : soul (somali : SB.).

Euphorbia systyloides Pax 1894 (sect. *Eremophyton-Holstianae*).

Euphorbia Holstii Pax 1894; *E. Volkensii* Pax ap. Engler 1895.

Typus : *Hildebrandt* 1041 (Kokotoni in ins. Zanzibar).

Africa Tropica : Ke.Ug.Ta.Za.Ny.

Observatio. — Species typica et duo verietates desunt in Aethiopia, ubi tertia tantum viget :

— var. **hebecarpa** (Pax) N. E. Brown 1911.

Euphorbia Holstii var. *hebecarpa* Pax 1904.

Syntypi : *Engler* 2019 (Nakuru), *Merker* (Masaisteppe).

AETHIOPIA : GS. (Yavello, *Bally* 9223; fide BALLY in litt. 27.2.57). — AFRICA TROPICA : Ke.N-Ta.

Euphorbia tenuirama SCHWFTH ex BERGER 1907 (sect. *Euphorbium-Diacanthium*).

Typus : cultus, forsan in Horto Panormitano.

AETHIOPIA : forsan E. (cult. in H. Panorm.; fide SENNI 1905). — EXTRA AFRICA : Ar?

Observatio. — Species dubia etsi a BERGER germanice descripta, quam JACOBSEN 1954 in Ar. endemicam putavit.

Euphorbia tetracantha RENDLE 1896, non PAX 1901 (sect. *Euphorbium-Diacanthium*).

Typus : *Donaldson-Smith* s.nr. (ad flumen Shebeli).

AETHIOPIA : SO-H. vel W-SO.

Euphorbia Thi SCHWFTH 1868 (sect. *Euphorbium-Diacanthium*).

Euphorbia polyacantha AUCT. non BOISS. : SCHWFTH & ASCH. 1867 p.p.

Typus : *Schweinfurth* 832 (Wadi O-Druss et Wadi Harratreb prope Suakin).

Nomen indigenum : thi (bega in Nu.).

Observatio. — Taxon typicum nonnisi in O-Nu. repertum, cum citationes ex E. et SB. fere certe ad *E. infaustam* spectent.

— var. **subinarticulata** (SCHWFTH) N. E. BR. 1912.

Euphorbia polyacantha var. *subinarticulata* SCHWFTH 1899.

Euphorbia polyacantha AUCT. non BOISS. : BOISS. 1860 et 1862 p.p.min. (quoad *Schimper* 1264).

Syntypi : *Schweinfurth* 204, 210 (prope Suakin).

AETHIOPIA : O-A. (Goelleb, *Schimper* 1264; fide N. E. BR. 1912). — AFRICA TROPICA : NO-SuA.Nu.

Euphorbia Tirucalli L. (sect. *Euphorbium-Tirucalli*).

Euphorbia viminalis MILL. 1768; *E. rhipsaloides* WELW. 1856; *Arthrothamnos Tirucalli* (L.) KL. & GKE 1860; *E. laro* DRAKE 1899; *E. media* cum var. *Bagshawei* N. E. BR. 1911.

Typus : ex India, prob. Malabar.

AETHIOPIA : GS.S-SO. — AFRICA TROPICA : Ke.Ug. Za.Ta.Con.Ny.Mo.Tr.An. — EXTRA AFRICAM TROPICAM : SO-S-Af.Aeg.Mad.Ind.IN.Phil.

Nomina indigena : dania, danie, danó, danno (somali, ab Italis recepta).

Observationes. — 1. Plurimi auctores, recentissimi quoque consentiunt, hanc esse africanam origine et in Ind. alibique introductam, N. E. Brown autem e contrario ex Ind. oriundam et in Af. introductam esse censuit.

2. — Multis locis colitur, cum ad sepes excolendas apta sit et vi venefica ad pisces capiendos adhibeatur.

Euphorbia Tozzii Chiov. 1932 (sect. *Euphorbium-Diacanthium*).

Typus : *Tozzi* s.nr. (Alessandra in insula Touata fluminis Juba).

Aethiopia : S-SO.

Observatio. — Fide auctoris species distinctissima.

Euphorbia triaculeata Forskal 1775 (sect. *Euphorbium-Diacanthium*).

Euphorbia infesta Pax 1904.

Typus : *Forskal* (Musa in Ar.).

Aethiopia : E.SB.SO. — Africa Tropica : O-Nu. — Extra Africam : S-Ar.

Nomina indigena : schirrum-halli, scirrum-halli (tigre : Mensa), danego (warsangeli : M. Al-Madu in SB.).

— var. **triacantha** (Ehrenb. ex Boiss.) N. E. Br. 1911.

Euphorbia triacantha Ehrenb. ex Boiss. in DC. 1862; *E. Faurotii* Franch. 1867.

Typus : *Ehrenberg* (insula Toalut prope Massaua).

Aethiopia : E.SF.

Euphorbia turbiniformis Chiov. 1929 (sect. *Euphorbium-Meleuphorbia*).

Syntypi : *Stefanini & Puccioni* 701 (inter Dhur et Hossa-Uen in Migiurtinia), *Ruspoli & Riva* 225 (Giacorsa [in Borana nec Ogaden !]).

Aethiopia : SB.NO-SO.S-GS.

Euphorbia venefica Trém. ex Kotschy 1857, ex Boiss. in DC. 1862 (sect. *Euphorbium-Treisa*).

Euphorbia venenifica Trém. ex Schfwth 1867 et N. E. Br. 1911 (sphalm.).

Euphorbia mammillaris Auct. non L. : Trémaux 1862.

Syntypi : *Kotschy* (Nuba in Cordofan), *Trémaux* (Ƀasogl in Sennaar).

Aethiopia : NW-GS. (Benischangul, *Cienkowsky;* fide Schwfth 1867). — Africa Tropica : C-S-SuA.Senr.Cor.Ds.

Observatio. — Venenum pro acuminibus sagittarum praebet.

Euphorbia Wellbyi N. E. Br. 1911 (sect. *Tithymalus-Esulae*).

Typus : *Wellby* (inter flumen Hawash et Maki).

Aethiopia : W-H.S-S. — Africa Tropica : Ke.Ug.N-Ta.

Euphorbia zambesiana Benth. in Hook. 1880 (sect. *Anisophyllum*).

Euphorbia Poggei Pax 1894.

Syntypi : *Livingston-Expedition* (Zomba et Lacus Shirwa), *Buchanan* (Shire).

Aethiopia : GS. (Agharemariam, *Mooney* 5436; fide Gillett in litt. 26.10.1956). — Africa Tropica : Ug.Ta.Ny. N-Rh.Con.An.OuC.

Observatio. — Brown 1911 varietates duo distinxit, quarum synonyma hic praetermisi.

Euphorbia zeylana N. E. Br. 1913 (sect. *Anisophyllum-Chamaesyceae*).

Syntypi : *Drake-Brockman* 736-742 (Zeyla).

Aethiopia : SB.

Euphorbiae species incertae :

Aethiopia : N-H. (Laga-Hardim in M. Chercher, *Rosen*; Pax 1907 et Engler 1910 sub nomine *E. abyssinica)*.

Observatio. — Certe ad aliam speciem eiusdem sectionis spectat.

Aethiopia : S-E. (Assab, *Licata*; fide Balsamo 1891 sub nomine *E. antiquorum*).

Observatio. — Certe cum alia specie commutata.

Aethiopia : S-SO. (Giumbo in Goscia, *Macaluso* 179; fide Mattei sub nomine *E. Lemaireana.*

Nomen indigenum : kalali (somali : Giumbo).

Observatio. — Fide N. E. Brown 1912 et auctorum post hunc *E. Lemaireana* Boiss. in DC. 1862 est synonymon *E. angularis*

Klotzsch 1862 (*E. abyssinica* var. *mozambicensis* Boiss. in DC. 1862) e Mo.N-Tr.Ny?Ta?Za?

Aethiopia : S-SO. (sine loco; fide Senni 1935 sub nomine *E. parvifolia* Chiov., non Boiss. in DC. 1862).
Nomen indigenum : uscabe (somali : S-SO.).
Observatio. — Nomen citatum non exstat. Fide Senni est « frutex dense ramosa », sed ne sectio quidem liquet.

Aethiopia : SB. (sine loco; fide Drake-Brockman 1912, Collenette 1931, Gilliland 1952).
Nomina indigena : dibbu, dibu (somali : SB.).
Observatio. — Conferendae sunt *E. grandicornis, E. infausta, E. nigrispina.*

Aethiopia : SB. (M. Ahl, *Collenette ;* fide Collenette 1931).
Nomen indigenum : angir (somali : loco citato).
Observatio. — Confer *E. Grosseri* et *E. Sennii.*

Aethiopia : SO. (Villaggio Duca Abruzzi, *Bally* 9539; fide Bally in litt. 27.2.57).
Nomina indigena : kabibi, kawiwi (somali).

Aethiopia : SB. (M.Al-Madu, prope Geldin, *Bally* 11139; fide Bally in litt. 9.5.57).
Nomen indigenum : en (warsangali).

Aethiopia : (M.Al-Madu, inter Geldin et Sahaguri, *Bally* 11158, fide Bally in litt. 9.5.57).
Nomen indigenum : danego (wansangali).

Euphorbiae species diversae succulentae :
Nomina indigena : adami, hadami (galla; fide Chiov. 1936, Logan 1946), katscho (kaffitscho; fide Cufodontis 1947), kulkwal (amhara; fide Logan 1946).

Euphorbiae species indeterminatae :
Nomina indigena : birgut (amhara; fide Roth ap. Harris 1844), asasito, habarre-bennet (tigre; fide Schfwth 1893), mombirás (bilin; fide ejusd.), dumaigo (somali : SB.; fide Drake-Brockman 1912), dalenyadu, gagabo (somali : O-SB.; fide Gilliland 1952).

Euphorbia.

Observatio. — Clarus P. R. O. Bally indefessus peregrinator annis 1943 usque ad 1954 plurimas alias *Euphorbias* adhuc indeterminatas collegit, quarum multae novas species sistunt diagnoses expectantes.

Monadenium Pax 1894 (D.H. 4503).

Monadenium Ellenbeckii N. E. Br. 1911.
Typus : *Ellenbeck* 2102 (Tarro-Gumbi).
Aethiopia : SB.S-H. — Africa Tropica : Ke.

Monadenium erubescens (Rendle) N. E. Br. 1911.
Lortia erubescens Rendle 1898.
Typus : *Lort-Phillips* (M. Wagga in SB.).
Aethiopia : SB.H.

Monadenium Guentheri Pax 1909.
Euphorbia Ellenbeckii Auct. non Pax : Chiov. 1916.
Typus : *Uhlig* 48 (Maketan ad M. Buru).
Aethiopia : C-S-SO. — Africa Tropica : Ke.N-Ta.
Nomen indigenum : amacou (somali : Bulo-Burti).

Monadenium lunulatum Chiov. 1929.
Typus : *Stefanini & Puccioni* 1963 (Bur-Bitthale prope Belet-Uen).
Aethiopia : C-SO.
Nomen indigenum : gussduruei (somali : loco typi).

Monadenium maius (Pax) N. E. Br. 1911.
Lortia maior Pax 1903.
Typus : *Ellenbeck* 921 (Djebel-Haquim).
Aethiopia : H.

Monadenium reflexum Chiov. 1951.
Typus : *Vatova* 845 (inter Filtù et Neghelli).
Aethiopia : S-GS.

Monadenium stellatum Bally, spec. nova ined.
Syntypi : *Bally* 9380, 9546 (Gala-Karor prope Bulo-Burti).
Aethiopia : C-SO.

Observatio. — Clarus Bally ipse generis monographiam mox editurus est, in qua absque dubio diagnosis huius reperietur.

Monadenium subulifolium Chiov. 1929.

Typus : *Stefanini & Puccioni* 591 (inter Scermarca-Hassan et Tobungab).

Aethiopia : C-SO.

Nomen indigenum : rio-hone (somali : loco typi).

Monadenium Zavattarii Chiov. 1939.

Typus : *Cufodontis* 616 (inter Mega et Dubuluc).

Aethiopia : GS.

CALLITRICHACEAE.

Callitriche L. 1753 (D.H. 4530).

Callitriche stagnalis Scop. 1772.

Callitriche verna Auct. non L. : Rich. 1847, Schwfth & Asch. 1867.

Typus : *Scopoli* (circa Tergestum, in fossis aqua marina plenis).

Aethiopia : E.A.GS. — Africa Tropica : Ke.Ug. N-Ta.RU.O-Con.SO-Ni. — Extra Africam Tropicam : Mad.Mak.N-Af.Med.Eu.N-C-As.Him.Cey.IN.Au.NS.N-Am.

BUXACEAE.

Buxus L. 1753 (D.H. 4533).

Buxus Hildebrandtii Baill. 1873-76.

Buxanthus Hildebrandtii (Baill.) van Thieg. 1897; *Buxus calophylla* Pax 1907.

Typus : *Hildebrandt* 891 (M. Ahl, prope Yafir).

Aethiopia : SB.SF.H.N-SO?

Nomina indigena : dosso, dossogh, dusogh (somali : SB.).

Observatio. — Fide Pax 1907 (ex Rosen) apud gentes Gurgura in H. forsan pro veneno sagittarum adhibetur.

ANACARDIACEAE.

Mangifera L. 1753 (D.H. 4545).

Mangifera indica L. 1753.

Typus : ex India.

AETHIOPIA : S-SO. (Awai prope Brava, culta, *Macaluso*; fide MATTEI 1908 cum dubio). — AFRICA TROPICA : SuA. Ke?Za.Ta.Mo.An.SW-Con.Pri.Tho.Ni usque ad Senl. — EXTRA AFRICAM TROPICAM : SO-S-Af.Can.Aeg.Mad.Mas.Com.Ar. Ind.Mal.IN.Phil.Chi.Am.trop.

Observatio. — In Ind. indigena, alibi per terras tropicas saepe fructuum jucundi saporis gratia culta.

Mangifera macrocarpa BLUME 1826.

Typus : *Blume* (Java, in montanis Seribu).

AETHIOPIA : S-SO. (Jonti ad flumen Juba, cultum, *Gorini* 174; fide CHIOV. 1932). — AFRICA TROPICA : forsan hic illic culta. — EXTRA AFRICAM TROPICAM : Ind.Mal.IN.

Nomen triviale : mangos (hindustanice, fere ubique receptum).

Observatio. — Anne cum praecedente commutata ?

Anacardium L. 1753 (D.H. 4546).

Anacardium occidentale L. 1753.

Syntypi : ex Indiis.

AETHIOPIA : S-SO. (Jonti ad flumen Juba, cultum, *Gorini* 258, *Senni* 176; fide CHIOV. 1932). AFRICA TROPICA : Za. Ta.Mo.Con.An.Pri.Tho.Ann.FP.Ni. usque ad SuF. — EXTRA AFRICAM TROPICAM : Mad.Sey.Ar.Ind.Mal.IN.Phil.Am.trop.

Nomen indigenum : bibbó (somali : Jonti).

Observatio. — In Am. trop., praesertim Brasilia, indigena, fructuum gratia multis in terris tropicis jam diu culta et hodie interdum subspontanea.

Sclerocarya Hochst. 1844 (D.H. 4558).

Sclerocarya Birrea (Rich. ap. Guill. & Perr.) Hochst. 1844.
Spondias Birrea Rich. ap. G. & P. 1832; *Sclerocarya caffra* Sonder 1850.
Syntypi : *Leprieur & Perrottet* (Saint-Louis et Walo in Senl.).
Aethiopia : E.A.GS. — Africa Tropica : C-S-SuA. Senr. Ds. Ke. Ug. Ta. Ny. S-Con. Mo. S-Rh. Tr. Be. An. N-Ni. Dah. To. Senl. SuF. — Extra Africam Tropicam : SO-Af. Mad.
Nomina indigena : birr (Senegal), abengul (bilin), abógbul, abúngul (tigrinia), cumal, gomal, gomalle, gomalles (amhara).
Observatio. — Fructus edules, quibus Amharici fermentatione siceram parant.

Lannea Rich. ap. Guill. & Perr. 1831 (D.H. 4563).

Lannea cinerea (Engler) Engler 1897.
Odina cinerea Engler 1893.
Typus : *Hildebrandt* 893/d (M. Ahl).
Aethiopia : SB.

Lannea Cotoneaster (Chiov.) Sacleux 1934.
Odina Cotoneaster Chiov. 1929.
Syntypi : *Robecchi-Bricchetti* 576 (inter Obbia et Uarandi), *Stefanini & Puccioni* 402 (Sissib), 415 (inter Garbauen et Durgale).
Aethiopia : CO-SO.

Lannea Cufodontii Chiov. 1939.
Typus : *Cufodontis* 162 (a Neghelli 10 km Malca-Guba versus).
Aethiopia : GS.

Lannea cuneifoliolata (Engler) Engler 1897.
Odina cuneifoliolata Engler 1893.
Typus : *Hildebrandt* 1554 (Meid ad M. Ahl).
Aethiopia : SB.
Nomen indigenum : dananije (somali : Meid).

Lannea fruticosa (Hochst. ex Rich.) Engler 1897.
Odina fruticosa Hochst. ex Rich. 1847; *O. f.* var. *parvifolia* Oliv. 1868.
Syntypi : *Quartin-Dillon* (Maye-Gouagoua), *Schimper* 707 (Ferrokoba).

AETHIOPIA : E.A. — AFRICA TROPICA : Senr.Cor.S-SuA.Nu.N-Ug.N-Ni.

Nomina indigena : dugdu-gugná, dugdugna, dugduguna, dukdukeana, dukdukunna (tigrinia : Hamasen).

Lannea malifolia (CHIOV.) SACLEUX 1934.

Odina malifolia CHIOV. 1929.

Typus : *Stefanini & Puccioni* 824 (Doldol in Migiurtinia).

AETHIOPIA : SB.NO-SO.

Nomina indigena : degnein, guahaurí (somali : loco typi), bero, hria-eji (som. : SB.).

Observatio. — Fructus comeduntur.

Lannea minimifolia (CHIOV.) CUF., comb. nova.

Odina minimifolia CHIOV. 1932.

Typus : *Senni* 125 (inter Anole et Cu-Daio).

AETHIOPIA : S-SO (Transjuba).

Lannea obcordata (ENGLER) ENGLER 1897.

Odina obcordata ENGLER 1893.

Typus : *Hildebrandt* 893/b (M. Ahl).

AETHIOPIA : SB.

Nomina indigena : bananigi (somali : loco typi), daneneye (som. : O-SB.).

Lannea obovata (HOOK. F. ex OLIV.) ENGLER 1898.

Odina obovata HOOK. F. ex OLIV. 1868.

Typus : *Playfair* (Somali-Land).

AETHIOPIA : SB.N-SO?

Lannea Rivae (CHIOV.) SACLEUX 1934.

Odina Rivae CHIOV. 1929.

Typus : *Ruspoli & Riva* 1229 (inter Dadecc-Urtecc et Bidduma).

AETHIOPIA : GS.

Observatio. — Locus jacet in Borana nec, ut CHIOVENDA scripsit, in Ogaden.

Lannea Ruspolii ENGLER 1898.

Odina Ruspolii (ENGLER) CHIOV. ex SENNI 1935.

Typus : *Ruspoli & Riva* 630 (Duaya).

AETHIOPIA : W-SO vel GS.

Observatio. — Probabiliter de loco « Gobbo-Duaya » agitur, qui in GS. jacet.

Lannea Schimperi (Hochst. ex Rich.) Engler 1897.

Odina Schimperi Hochst. ex Rich. 1847; *Lannea rufescens* Engler 1898; *L. Stolzii* Endl. & v. Brehm. 1917.

Syntypi : *Quartin-Dillon* (Adderbati), *Schimper* 657, fl. ♀ (Djeladjekanne), 1282, fl. ♂ (Schoata vel Sciuada in Semien, nec Shoa !).

Aethiopia : E.A.H. — Africa Tropica : Senr.S-SuA. Ds.Ke.Ug.RU.Ta.OuC.Ch.Ca.Ni.Senl.

Nomina indigena : dugdugna, dugduguna (tigrinia), dareko (vallis Gobelli in H.), tergmusc (probl. amhara : ad lacum Tana).

— var. **glabrescens** Engler 1883.

Typus : *Schimper* 366 (Amba-Sea).

Aethiopia : W-E.

Lannea somalensis (Chiov.) Cuf., comb. nova.

Calesiam somalense Chiov. 1916; *Odina somalensis* (Chiov.) Senni 1935.

Typus : *Paoli* 1032 (inter Sobanalle et Usciacca-Guran).

Aethiopia : S-SO.

Lannea triphylla (Hochst. ex Rich.) Engler 1897.

Lanneoma velutina Delile 1843, non *Lannea velutina* Rich. ap. Guill. & Perr. 1832; *Odina triphylla* Hochst. (1844 nom. nud.) ex Rich. 1847 nom. illeg.; *Calesium triphyllum* (H. ex Rich.) Ktze 1891.

Typus : *Schimper* 891 (Djeladjekanne ad vallem Tacazze).

Aethiopia : E.O.-A?SB.GS. — Africa Tropica : Ke.Ta.

Nomina indigena : abda, abdé (tigrinia : Hamasen), lejidi (somali : SB.).

Observatio. — Engleri combinatio a nomine absque dubio illegitimo dependet. Hac de causa forsan nomen novum creandum erit, quod autem perficere nolui.

Lannea Welwitschii (Hiern) Engler 1898.

Calesiam Welwitschii Hiern 1896.

Syntypi : *Welwitsch* 4542-43 (Quibanga in An.).

Aethiopia : GS. (Moyale, *Cufodontis* 741; fide Cufodon-

TIS 1948 forsan huc). — AFRICA TROPICA : Ug.An.SW-Con. Gab.Ca.Ann.IC?

Observatio. — Specimen ex Aethiopia iterum exactius comparandum.

Pistacia L. 1753 (D.H. 4568).

Pistacia chinensis BUNGE 1833.

— var. **chinensis.**

Typus : *Bunge* (Peking).

Observatio. — Taxon typicum fide ZOHARY 1952 in Chi.For. Phil. diffusum, var. *integerrima* (STEW. 1874) ZOHARY 1952 in Afg. NW-Ind.W-Him., in nostra ditione nonnisi sequens :

— var. **falcata** (BECCARI ex MARTELLI) ZOHARY 1952.

Pistacia falcata BECC. ex MART. 1886; *Rhus f.* (BECC. ex MART.) PENZIG 1893.

Tyus : *Beccari* 272 (Keren, ad M. Deban).

AETHIOPIA : E.SB. — AFRICA TROPICA : O-Nu.

Nomina indigena : hra-a-mali, hra-el-mali, hria-el-mali (somali : Auboba), sisaye, sisei (som. : O-SB.).

Observatio. — Cum varietates tres areas inter sese valde disjunctas inhabitent, praeferendum mihi videtur, eas dignitate subspecifica ornare.

Pistacia Lentiscus L. 1753.

— var. **Lentiscus.**

Syntypi : ex Hispania, Lusitania, Italia.

Observatio. — Species mediterranea in Can.N-Af.Med.S-Eu.Ana. Syr.Pal. diffusa.

— var. **emarginata** ENGLER 1883.

Pistacia Lentiscus AUCT. non L. : GILLILAND 1952.

Typus : *Hildebrandt* 1531 (Meid ad M. Ahl.).

AETHIOPIA : E.SB.H.GS. — AFRICA TROPICA : Ke.Ug. N-Ta.

Nomina indigena : heis (somali : O-SB.), ula-aso (smo. : Libah-Hele), hamar, sisaye (som. : SB.), murkut (somali : resina).

Observatio. — Resina adusta suffimentum praebet.

— var. **falcatula** Chiov. (1929 nom. nud.) 1932.

Typus : *Basile* 177 (M. Laggio in Arussi).

Aethiopia : H.

Observatio. — Monographus Zohary hanc non vidit, quare porro comparanda.

Sorindeia Du Pet.-Thou. 1806 (D.H. 4573).

Sorindeia madagascariensis Du Pet.-Thou. (1806 diagn. gener.-specif.) 1825 (nom. specif.).

Sorindeia obtusifoliolata Engler 1895; *Aglaia somalensis* Chiov. 1916; *Sorindeia s.* (Chiov.) Chiov. 1921.

Typus : *Du Petit-Thouard* (Madagascar, sine loco).

Aethiopia : S-SO. — Africa Tropica : Ke.Za.Ta. Ny. N-Mo. — Extra Africam Tropicam : Mas.Mad.Com. culta in Ind.

Nomina indigena : mattambiod (somali : Uasciani), matan-biod (som. : Mansur), mperiperi (somali, vel potius kisuahili : Torda).

Scassellatia Chiov. 1932 (D.H. 4576*).

Scassellatia heterophylla Chiov. 1932.

Syntypi : *Senni* 221, 222, 397 (Baddada), 291 (Dalleri), 392 (Jack-Omisso).

Aethiopia : S-SO. (Transjuba).

Nomen indigenum : uanzí (somali : Baddada).

Observatio. — Fide auctoris genus e *Rhoideis*, proxime affinis *Protorhus.*

Schinus L. 1753 (D.H. 4582).

Schinus Molle L. 1753.

Typus : e Peru.

Aethiopia : E.GS.S.H. — Africa Tropica : Ta.An. et alibi. — Extra Africam Tropicam : Aeg.Med. S-Eu. Ar.et alibi.Am.trop.

Nomen indigenum : barbaré-zellim (tigrinia).

Observation. — In S-Am. trop. indigenum, hodie saepe cultum in hortis et ambulacris regionum tropicarum et subtropicarum, ubi interdum efferatur.

Heeria Meissner 1837 (D.H. 4589).

Heeria insignis (Del.) O. Ktze 1891.

Ozoroa insignis Delile 1843; *Anaphrenium abyssinicum* Hochst. 1844; *A. pulcherrimum* Schwfth 1867; *Rhus insignis* (Del.) et var. *latifolia* Oliv. 1868; *R. pulcherrima* (Schwfth) Oliv. 1868; *Anaphrenium abyssinicum* var. *lanceolatum* et var. *latifolium* (Oliv.) Engler 1883; *Heeria abyssinica* (Hochst.) et *H. pulcherrima* (Schwfth) O. Ktze 1891; *H. insignis* var. *lanceolata* (Engl.) et var. *latifolia* (Oliv.) Engler 1895; *H. abyssinica* var. *lanceolata* (Engl.) Durand 1909; *Anaphrenium insigne* (Del.) et var. *lanceolatum* (Engl.) Fiori 1911.

Typus : *Ferret & Galinier* (Abyssinia, sine loco).

Aethiopia : E.A.GS.H.SF.SB. — Africa Tropica : SuA. (± ubique). Ke.Ug.Ta.RU.O-SO-Con.Ny.Mo.S-Rh.Tr.SW-Af.An.SW-Con.OuC.N-Ca.Ni.Dah.N-To.SL.GuiF.Gam.Senl.SuF. — Extra Africam Tropicam : Ar.

Nomina indigena : sanas, sansa, sansai, sausai, zanzai (tigrinia), wigir-adad (somali : M. Birda in SB.).

Observatio. — Summopere variabilis quoad formam filiorum. Folia surculorum e truncis caesis vel combustis orientium interdum amplissima et talia specimina Schwfth 1867 *Anaphrenium pulcherrimum* vocavit, ut statuit Engler 1921.

Heeria reticulata (Bak. f.) Engler 1921.

Heeria insignis var. *reticulata* Baker f. 1899.

Typus : *Rand* 307 (Bulawayo).

Aethiopia : GS. (Yavello, *Bally* 9263; fide Bally in litt. 27.2.57, cum dubio). — Africa Tropica : Ke? Ta.Rh.Ny.Mo.

Observatio. — Meikle ap. Brenan et al. 1953 suspicatus est, hanc, praesertim in partibus septentrionalibus areae a *H. insigni* male distinctam, forsan varietatem sistere, ut jam Baker fecerat.

Rhus L. 1753 (D.H. 4594).

Rhus abyssinica Hochst. (1841 nom. nud.) ex Oliver 1868.

prob. *Rhus foliosum* Rich. 1847; *Toxicodendron abyssinicum* (H. ex Oliv.) O. Ktze 1891.

Rhus villosa Auct. non L. f. : Penzig 1893, Senni 1905, 1908.

Syntypi : *Schimper* 259 (Gennia in Memsah), *Schweinfurth* (Soturba in Nu.).

Aethiopia : E.SF.S? — Africa Tropica : O-Nu.S-SW-SuA. — Extra Africam Tropicam : Ar.

Nomina indigena : amus, hamus (tigrinia : Hamasen), mocicio, motjitjo, motjitjoh, motjitio, motschitscho (tigrinia : Acrur), schamut, schamut-offruss, sciamut, schiamut (tigre : Mensa), tetale (Eritrea).

Rhus amharica Pichi Sermolli 1951.

Typus : *Pichi Sermolli* 2337 (M. Guranghé prope Gondar).

Aethiopia : A.

Observatio. — Diligentius comparanda.

Rhus glutinosa Hochst. ex Rich. 1847.

Rhus Petitianum Rich. 1847; *R. glutinosa* var. *α acutifolia* Engler 1883.

Syntypi : *Quartin-Dillon* [et *Petit* 278, fide Engler 1883] (Adua, « Ocbasa »), *Schimper* 851 (Tchenausa vel Dschenausa in Semien).

Aethiopia : E.A.GS.H. — Africa Tropica : Ke? N-Ta.

Nomina indigena : at-esa (vallis Gafra in H.), magi, mangi, manki, manqui (tigrinia), ectalo (prob. Adua), kamo (amhara : Agaumeder), umbuth (amhara), adessa (galla).

— var. **obtusifolia** Engler 1883.

Syntypi : *Schimper* 140 (Aman-Eski), *Quartin-Dillon & Petit* 13 (Mareb).

Aethiopia : E.GS. — Africa Tropica : N-Ta.

Rhus natalensis Bernh. ex Krauss 1844.

Rhus Kotschyana Fenzl 1844 nom. nud.; *R. crenulatum* Rich. 1847; *R. glaucescens* Rich. 1847; *R. glaucum* Hochst. ex Oliv. 1868 nom. nud. in obs., non Thunb. 1803, Pers. 1805, Desf. 1809; *R. abyssinica* var. *glabrata* Becc. ex Martelli 1886; *R. glaucescens* var. *natalensis* (Bernh. ex Kr.) et var. *brevifoliolata* Engler 1895; *R. g.* var. *undulata* Diels 1898, non *R. undulata* Jacq. 1798; *R. g.* var. *hararensis* Engler 1906 nom. nud.; *R. g.* f. *pubescens* Fiori 1911; *R. natalensis* var. *brevifoliolata* (Engl.), var. *elliptica,* var.

hararensis, var. *subintegra* ENGLER 1921; *Searsia natalensis* (BERNH. ex KR.) BARKL. 1950.

Rhus undulatum AUCT. non JACQ. : RICH. 1847, DELILE 1847.

Typus : *Krauss* 395 (Natal-Bay).

AETHIOPIA : E.A.GS.S.H.SB. — AFRICA TROPICA : C-S-SuA.O-Nu.Senr.Ds.Bo.Ke.Ug.Ta.Za.RU.O-SO-Con.Ny.S-Rh.Mo.Tr?An.OuC.N-Ca.N-Ni.To. — EXTRA AFRICAM TROPICAM : SO-Af.Com.Ar.

Nomina indigena : dedálo, tataló, tetalé, thathálí, thathálo, thethála, thethálu (tigrinia et Saho), ilka-ade (somali : SB.).

Observatio. — Speciei latissime diffusae et maxime polymorphae subdivisio intraspecifica nondum patet. Hoc loco duo tantum varietates bene descriptas e ditione nostra recepi.

— var. **macrocarpa** (SCHWFTH) CUF., comb. nova.

Rhus glaucescens var. *macrocarpa* SCHWFTH 1899; *R. g.* f. *macrocarpa* (SCHWFTH) FIORI 1911.

Syntypi : *Schweinfurth* 392 (prope Mai-Mafales in Dembelas), 801 (M. Lalamba prope Keren).

AETHIOPIA : E.

— var. **obovatifoliolata** (ENGLER) CHIOV. 1932.

Rhus glaucescens var. *obovatifoliolata* ENGLER 1898.

Typus : *Ruspoli & Riva* 173 (inter Surro et Rogono).

AETHIOPIA : GS.H.

Rhus Puccionii CHIOV. 1929.

Syntypi : *Stefanini & Puccioni* 712 (Tabantoh in Migiurtinia), 849 (ad os fluminis Nogal).

AETHIOPIA : NO-SO.

Nomina indigena : humbul, umbul (somali : locis syntyporum).

Rhus Quartiniana RICH. 1847.

Rhus Schimperi HOCHST. 1856 nom. nud.; *R. glaucescens* var. *Schimperi* OLIV. 1868; *R. natalensis* var. *Schimperi* (OLIV.) ENGLER 1921.

Rhus undulatum AUCT. non JACQ. : SCHWFTH 1867, SCHWFTH & ASCH. 1867; *R. glaucescens* AUCT. non RICH. : OLIVER 1868 p.p. min.

Typus : *Quartin-Dillon* (prov. Chiré).

AETHIOPIA : E.A. — AFRICA TROPICA : Ke.Ta.Rh.An.

Nomina indigena : dedálo, tetalo (tigrinia).

Observatio. — Fide MEIKLE 1954 (Consp. Fl. Ang. II/1) hanc pro specie distincta recepi. Quoad synonymiam ENGLER 1883 secutus sum.

Rhus retinorrhoea STEUD. ex OLIVER 1868.

Rhus viminale AUCT. non AIT. 1789, nec VAHL 1794 : auctorum Fl. Aeth.

Syntypi : *Quartin-Dillon & Petit* 275-76 (Chiré), *Schimper* 331 (M. Scholoda prope Adua), 742 (Tigre), 1627 (Djeladjekanne).

AETHIOPIA : E.A.S-S.H.SB. — AFRICA TROPICA : O-Nu. — EXTRA AFRICAM : Ar.

Nomina indigena : dedálo, tatalo, tetalo, (tigrinia et amhara), fat-aélo (tigrinia), telem, tetem (amhara), mugan (prob. amhara : Harar), sisai (somali : SB.).

Rhus Ruspolii ENGLER 1898.

Rhus Bequaertii ROB. & LAW. 1947.

Typus : *Ruspoli & Riva* 1317 (Bidduma).

AETHIOPIA : GS. — AFRICA TROPICA : Ke.Ug.O-Con.

Rhus somalensis ENGLER 1892.

Rhus myriantha BAKER 1895.

Typus : *Hildebrandt* 1542 (Meid ad M. Serrut).

AETHIOPIA : SB.

Nomen indigenum : ilka-adeye (somali : O-SB.).

Rhus vulgaris MEIKLE 1951.

Rhus villosa var. *tomentosa* OLIVER 1868 p.p. (quoad *Roth*); *R. pyroides* var. *erythraea* FIORI 1911; prob. *R. villosa* var. *dentata* ENGLER 1895; *R. v.* var. *cuneifoliolata* ENGLER 1921; prob. *R. v.* var. *gallaënsis* ENGLER 1921; *R. v.* var. *Oliveri* ENGLER 1921; *R. Steudneri* ENGLER 1921 nom. nud.; *R. incana* var. *cuneifoliolata* (ENGL.) CHIOV. 1939; *R. huillensis* var. *erythraea* (FIORI) PICHI SERMOLLI 1950.

Rhus incanum AUCT. non MILL. 1768, nec ENGLER 1883 : CHIOV. 1939 et auctorum Fl. Afr. trop. saltem p.p.; *R. villosa* AUCT. non L. F. 1781 : auctorum Fl. Aeth. p.p. max. et Fl. Afr. trop. saltem p.p.; *R. pyroides* AUCT. non BURCH. 1822 : auctorum Fl. Aeth. p.p. max. et Fl. Af. trop. p.p.; *R. abyssinica* AUCT. non HOCHST. ex

Oliv. 1868 : Hutch. & Br. 1941; *R. pyroides* var. *gracilis* Auct. non (Engl.) Burtt-Davy 1932 : Pichi Sermolli 1951; *R. Mac-Owanii* Auct. non Schönl. 1930 : Pichi Serm. 1951.

Typus : *Rogers* 711 (Kaimosi in distr. Nandi in Ke.).

Aethiopia : E.A.GS.S.H.S-SO? — Africa Tropica : C-S-SuA.KeUg.Ta.RU.Con.MC.Gab?

Nomina indigena : kamo (amhara), gomo (prob. amhara : Galla-Pass in H.), asckamú (amhara : Gondar).

Observatio. — Clarus Meikle nuperrime perspexit, hanc esse speciem novam solito commutatam cum compluribus aliis, quae fines S-Af. non transgrediuntur. De eius variabilitate tamen adhuc non certiores facti sumus. Idem auctor porro statuit *R. longipes* Engler 1883 (Typus : *Welwitsch* 4413 ex An.) speciem esse valde affinem, quae An.S-Rh.Ny.Ta.Ke.SuA. et W-Af trop. inhabitat, sed in nostra ditione deesse videtur.

Rhus spec. indeterminata :

Aethiopia : S. (Mulu, ad sept. Addis-Abeba, *Bally* 3062; fide Bally in litt. 27.2.57).

Nomen indigenum : kilami (amhara).

AQUIFOLIACEAE.

Ilex L. 1753 (D.H. 4614).

Ilex mitis (L.) Radlk. 1885.

Sideroxylon mite L. 1767 nom. seminud., Jacq. 1788; *Myrsine m.* (L.) Spreng. 1825; *Ilex capensis* Harv. & Sond. 1860; *I. mitis* var. *kilimandscharica* Loes. 1901; *I. m.* var. *erythraea* Fiori 1912.

Typus : Africa (fide L. 1767); cultus in Horto Vindobonensi, ex Prom. Bonae Spei (fide Jacq. 1788).

Aethiopia : E.S.GS. — Africa Tropica : Ke.Ug.Ta. RU.Ny.S-Rh.Tr.An.FP.SO-Ni. — Extra Africam Tropicam : SO-S-Af.Mad.

Nomina indigena : michiccio (sidama), miehessa, miessa, totto, tootto (galla), msargafou (amhara).

Observatio. — Foliorum forma et dentibus nunc crebris nunc nullis maxime variabilis.

CELASTRACEAE.

Maytenus (Molina 1782) H.B.K. 1824-25, nom. cons. prop. (D.H. 4626).

Maytenus Castellii (Pichi Serm.) Cuf., comb. nova.
Gymnosporia Castellii Pichi Sermolli 1951.
Typus : *Pichi Sermolli* 2316 (peninsula Zeghié ad lacum Tana).
Aethiopia : A.

Maytenus Cortii (Pichi Serm.) Cuf., comb. nova.
Gymnosporia Cortii Pichi Sermolli 1951.
Typus : *Pichi Sermolli* 2599 (Ambaras in valle Beleghes in Semien).
Aethiopia : O-A.

Gymnosporia filamentosa Loes. 1893.
Gymnosporia filamentosa var. *major* et var. *minor* Loes. 1893.
Syntypi : *Stuhlmann* 915 (M. Niansa), 919 (Ihangiro), 3418 (Kimoani), 4657 (Muansa).
Aethiopia : GS. (inter Giaribule et Haro [nec Harar], *Ruspoli & Riva* 190; fide Loesener 1900). — Africa Tropica : NW-Ta.RU.
Observatio. — Fide Blakelock in K. B. 1956 species *M. ovato* affinis quidem sed adhuc incerta, ideoque combinationem novam creare nolui.

Gymnosporia intermedia Chiov. 1911.
Typus : *Chiovenda* 1894 (M. Incedubá prope Gondar).
Aethiopia : A.
Observatio. — Fide auctoris forsan proles hybrida « *Gymnosporia serrata* var. *Schimperi* × *G. luteola* », ergo *Maytenus ovatus* f. *pubescens* × *M. undatus*. Hanc quoque transferre nolui.

Maytenus obbiadensis (Chiov.) Cuf., comb. nova.
Gymnosporia obbiadensis Chiovenda 1929.
Syntypi : *Stefanini & Puccioni* 375 (Magangib prope Obbia), 434 (inter Garbauen et Durgale), 590 (inter Scermarca-Hassan et Tobungab).
Aethiopia : CO-SO.

Maytenus ovatus (Wall. ex W. & A.) Loesener 1942.

— var. **ovatus** forma **ovatus.**

Celastrus ovatus Wallich ex Wight & Arnott 1834; *Catha o.* (W. ex W. & A.) Walpers 1842; *Celastrus obscurus* Rich. 1847; *Gymnosporia ovata* (W. ex W. & A.) Lawson 1875; *G. obscura* (Rich.) Loes. 1893; *G. addat* Loes. 1908; *G. serrata* (Hochst.) Loes. var. *niansaica* Loes. 1908; *G. s.* var. *obscura* (Rich.) Fiori 1912.

Typus : *Noton* ex Herb. *Wallich* 4308 (Nilghiri).

Aethiopia : E.A.S.GS.W-H. — Africa Tropica : Ke.Ug.RU. — Extra Africam Tropicam : S-Ind. et forsan alibi.

Nomina indigena : adad, add-add, addat, atat (tigrinia et galla), hatchate, hatschat, hatsciat (tigrinia et agau).

— — forma **pubescens** (Schwfth) Blakelock 1956.

Celastrus serrulatus R. Br. ap. Salt 1814 nom. nud.; *C. arbutifolius* Hochst. ex Rich. 1847 et var. *major* Rich. 1847; *C. Atkaio* Rich. 1847; *C. Schimperi* et *C. serratus* Hochst. ex Rich. 1847; *C. arbutifolius* var. *minor* Schwfth 1867 nom. nud.; *C. serratus* var. *Steudneri* Engler 1892; *Gymnosporia arbutifolia* (H. ex Rich.) Loes. 1893; *G. Atkaio* (Rich.) Loes. 1893; *G. Engleriana* Loes. 1893; *G. serrata* (H. ex Rich.) Loes. 1893; *G. s.* var. *Steudneri* (Engl.) Loes. 1893; *G. s.* var. *pubescens* Schwfth 1899; prob. *G. Engleriana* var. *macrantha* Loes. 1908; *G. serrata* var. *Schimperi* (H. ex Rich.) Fiori 1912.

Celastrus parviflorus Auct. non Vahl : Delile 1847, Schwfth & Asch. 1867.

Typus : *Schweinfurth* 279 (Hille, Gebel Bura).

Aethiopia : E.A.S.GS.H.SB. — Africa Tropica : SuA.Ke.Ug.Ta.RU.Con.N-Rh.Ca.Ni.IC. — Extra Africam : Ar.

Nomina indigena : adad, add-add, atat, at-at, ataat, atiati (tigrinia et amhara), kamo, courava, kurawa, thelalo, tthelalo (tigrinia), halhate (Semien), kombolcha (galla?: Yuka in H.), talu (amhara?: Gondar), degmut (somali : O-SB.), dubobeis (som. : M. Wobleh in SB.).

— var. **argutus** (Loes.) Blakelock 1956.

Celastrus gracilipes Welw. ex Oliv. 1868; *Gymnosporia g.* (W. ex Oliv.) Loes. 1893; *G. g.* var. *arguta* Loes. 1893; *G. Trothae* Loes. 1900; *G. Ellenbeckii* Loes. 1908; *Maytenus gracilipes* (W. ex Oliv.) Exell 1952.

Typus : *Stuhlmann* 2464 (Ru-Nsoro, id est Ruwenzori).

Aethiopia : S.GS. — Africa Tropica : SO-SuA.Ug. Con.N-Ny.An.Ca.SO-O-Ni.

Observatio. — Fide cl. Blakelock 1956 specimina intermedia inter var. *argutam* et var. *ovatam* s.l. in E.A. et Ke.Ug.S-Ni. lecta prostant. Tertia var. *kurmaicus* Blakelock 1956 (*Catha spinosa* Forsk. 1775, non *Maytenus spinosus* Lourt. & O'Donn. 1955; *Celastrus parviflorus* Vahl 1790; *Gymnosporia spinosa* [Forsk.] Christensen 1922, non Merr. & Rolfe 1908, nec Fiori 1912; *G. parvifolia* [Vahl] Chiov. 1923 sphalm.) cuius typus est *Forskal* (Kurma in Ar.) adhuc ex Ar. tantum nota.

Maytenus putterlickioides (Loes.) Exell & Mend. ap. Brenan 1953.

Gymnosporia putterlickioides Loes. 1893.

Typus : *Fischer* 109 (Kiwamba in regione Lacuum).

Aethiopia : GS. (Moyale, *Cufodontis* 757; fide Chiovenda 1939, prob.). — Africa Tropica : Ke.Ta.Ny.S-Rh.An.

Observatio. — Specimen citatum iterum comparandum.

Maytenus senegalensis (Lam.) Exell 1952.

Celastrus senegalensis Lam. 1783; *C. glaucus* R. Br. ap. Salt 1814 nom. nud.; *C. montanus* Roth ex Roem. & Schult. 1819; *C. decolor* Del. 1826; *C. coriaceus* Guill. & Perr. 1831; *C. europaeus* Boiss. 1838; *Catha e.* (Boiss.) Boiss. 1845; *Celastrus senegalensis* var. *inermis* Rich. 1847; *Catha decolor* (Del.) et *C. senegalensis* (Lam.) Webb 1854; *Gymnosporia montana* (Roth ex R. & S.) Benth. 1863; *G. europaea* (Boiss.) Masf. 1881; *G. crenulata* Engl. 1889; *Celastrus senegalensis* var. *coriaceus* (G. & P.) Engler 1892; *C. s.* f. *inermis* (Rich.) et f. *spinosa* Engler 1892; *Gymnosporia senegalensis* (Lam.) Loes. 1893; *G. s.* var. *inermis* (Rich.) cum formis *chartacea, coriacea* (G. & P.) et *macrocarpa* Loes. 1893; *G. s.* var. *spinosa* (Engl.) Engl. ex Loes. 1893; prob. *G. s.* var. *Stuhlmanniana* Loes. 1893 saltem p.p. (quoad Chiovenda 1929); *G. Eminiana* Loes. 1893; *G. s.* var. *coriacea* (G. & P.) Pax 1907; *G. spinosa* (« Forsk. ») Fiori 1912, non (Blanco) Merr.

& Rolfe 1908, nec (Forsk.) Christensen 1922; *G. spinosa* var. *inermis* (Rich.) cum formis *chartacea* (Loes.), *coriacea* (G. & P.), *macrocarpa* (Loes.) et *obovata* Fiori 1912; *G. spinosa* var. *obovata* (Fiori) Fiori 1916.

Gymnosporia buxifolia Auct. non (L.) Szysz. : Hutch. & Bruce 1941 et auctorum Fl. Af. trop. p.p.

Typus : *Adanson* (Senegal), cult. in Horto Parisiensi.

Aethiopia : E.A.GS.S.H.SB.SO. — Africa Tropica : SuA.Ke.Ug.Ta.Za.RU.NO-SO-Con.Ny.Rh.Mo.Tr.Be.SW-Af.An. SW-Con.Ca.usque ad Senl. — Extra Africam Tropicam : Can.NW-Af.C-Sah.SW-Eu.N-Mad.Aldabra.Ar.Afg.Ind. IN.N-Au.

Nomina indigena : argudi, argueddi, argutti, aquti, urgudi (tigrinia), argud (saho), erghitté, ergitte, hörgütte (tigre : Mensa), gualé-coccová (Zeghié ad Lacum Tana), bocodon, bocondon, bucondon (somali : Giohorbile in S-SO.), cundon, kundon (som. : Nogal), jaad (som. : Biju-Suldan in SB.), kombolcha (Gallapass in H.).

Observationes. — 1. — Summopere variat foliorum mensura et forma, armatus vel inermis et aream ingentem tegit. Divisionem intraspecificam temptare non sum ausus, cum monographus tantum eam perficere possit.

2. — *Maytenus cymosùs* (Sol. ap. Sims) Exell 1952 *(Celastrus c.* Sol. ap. Sims 1819; *C. buxifolius* L. 1753 p.p., non *Maytenus b.* Griseb. 1866; *Gymnosporia buxifolia* Szysz. 1888) sat affinis et interdum cum nostro commutatus fide auctorum recentiorum solummodo in An. et S-Af. trop. et subtrop. viget.

Maytenus somalensis (Loes.) Cuf., comb. nova.

Gymnosporia somalensis Loes. 1893.

Typus : *Hildebrandt* 1543 (Meid ad M. Serrut).

Aethiopia : SB.

Maytenus undatus (Thunb.) Blakelock 1956.

Celastrus undatus Thunberg 1794; *C. luteolus* Del. 1843; *C. sinuatodentatus* Hochst. 1844 nom. nud.; *C. laurifolius* Rich. 1847; *Catha fasciculata* Tul. 1857; *Celastrus f.* (Tul.) Boiv. ex Hoffm. 1881; *Gymnosporia luteola* (Del.) Szysz. 1888; *G. laurifolia* (Rich.) Loes. 1893; *Maytenus laurifolia* (Rich.) Loes. 1942; *M. luteola* (Del.) Andrews 1952.

Typus : *Thunberg* (Caput B. Sp.).

Aethiopia : E.A.GS.H.SF.SB. — Africa Tropica : SuA.Ke.Ug.Ta.Ny.Rh.Mo.Tr.An.O-Ni.To.GuiF. — Extra Africam Tropicam : SO-Af.Mad.Com.

Nomina indigena : addad, zellimo (tigrinia), komboldj (amhara), deg-wun, sarad (somali : SB.).

Observatio. — Synonymiam locupletiorem ap. Blakelock in K. B. 1956 reperies.

Maytenus species indet. :

Aethiopia : SB. (sine loco, *Bally* 11003; fide Bally in litt. 9.5.57).

Nomen indigenum : deg-mo-od (warsangali).

Nomen indigenum : combolciá (galla : fide Piovano 1942).

Observatio. — Verisimiliter de *M. ovato* vel *M. undato* agitur.

Maytenus species omnes :

Nomen indigenum : a-ad (tigrinia : fide Schwfth 1893).

Catha Forsk. 1775 (D.H. 4629).

Catha edulis Forsk. 1775 (63 diagn. gener.-specif., CVII nom. specif.).

Celastrus edulis Vahl 1790; *Trigonotheca serrata* Hochst. 1841; *Catha Forskalii* Rich. 1847; *Dillonia abyssinica* Sacleux 1932.

Typus : *Forskal* (Yemen, « colitur in hortis cum *Coffea* »).

Aethiopia : E.A?GS.S.H. — Africa Tropica : Ke.Ta. Ug.Ny.Mo.S-N-Rh.Tr.An? — Extra Africam Tropicam : SO-S-Af.Ar.

Nomina indigena : gat, kat, kath, khat, qat (arabice), chaat, ciai, ciat, ciut, dschaht, dschat, tchaad, tschaht, tschai, tschat (tigrinia, amhara, galla).

Observatio. — Folia manducata et eorum decoctum eximia virtute stimulante famosa, qua de causa species multis locis colitur. Sunt qui eam in Ar. cultam tantum provenire putant.

Cassine L. 1753 (D.H. 4641).

Cassine aethiopica Thunb. 1818.

Elaeodendron aethiopicum (Thunb.) Oliver 1868 : *Cassine Holstii* Loes. 1894; *Mystroxylon aethiopicum* (Thunb.) Loes. 1897; *M. Holstii* (Loes.) Loes. 1897; *Elaeodendron Holstii* (Loes.) Senni 1935.

Elaeodendron sphaerophyllum Auct. non Presl : Fiori 1913.

Typus : *Thunberg* (Caput bonae spei, sine loco speciali).

Aethiopia : S-SO. (Goscia, *Macaluso;* fide Borzì 1908 — Giumbo, *Fiori* 64; fide Fiori 1913, 1915, Gandoger 1922 — Giumbo, *Paoli* 158; fide Fiori ap. Chiov. 1916). — Africa Tropica : S-SuA.Ke.Ug.Ta.O-SO-Con.RU.Ny.Rh.Mo.Tr.An. SW-Con. — Extra Africam Tropicam : SO-S-Af.Mad. Com.

Nomen indigenum : guggá (somali : Goscia).

— var. **pubescens** (Oliver) Cuf., comb. nova.

Mystroxylon Burkeanum Sonder 1860; *Elaeodendron aethiopicum* var. *pubescens* Oliver 1868; *Cassine Burkeana* (Sonder) O. Ktze 1891; *C. aethiopica* var. *Burkeana* (Sond.) Loes. 1893; *Mystroxylon aethiopicum* var. *Burkeanum* (Sonder) Loes. 1900; *M. aeth.* var. *pubescens* (Oliver) Brenan 1949.

Mystroxylon aethiopicum Auct. non (Thunb.) Loes. : Engler 1921, Chiov. 1935, Exell & Mend. 1954, et forsan aliorum p.p.

Syntypi : *Welwitsch* 1269-71 (Huilla), 4615 (Bumbo).

Aethiopia : H. (Vallis Daruli, *Ellenbeck;* fide Engler 1904, 1921). — Africa Tropica : Ke.Ug.Ta.SuA.Ny.S-Rh.Mo. Tr.An. — Extra Africam Tropicam : S-Af.

Observatio. — Synonymiam speciei e litteris clari Blakelock sub dato 9.1.1957 desumpsi.

Cassine albivenosa (Chiov.) Cuf., comb. nova.

Elaeodendron albivenosum Chiov. 1932.

Typus : *Senni* 275 (Jack-Omisso).

Aethiopia : S-SO. (Transjuba).

Observatio. — Fide Blakelock deest in Ke.Ug.Ta. ideoque porro comparanda.

Cassine Aquifolium Fiori 1915.

Elaeodendron Aquifolium (Fiori) Chiov. 1929.

Syntypi : *Stefanini & Paoli* 786 bis (inter Gololonle et Ueneio), 895 (inter El-Ellan et Dorianle), 1007 (Gezira prope Lugh), [non *St.-P.* 855 bis (Biobahal)].

Aethiopia : C-S-SO.

Nomina indigena : gheb (somali : Lugh), meghet (som. : Baidoa).

Observatio. — Loesener 1942 opinatus est, hanc esse sequentis varietas.

Cassine Schweinfurthiana Loesener 1893.

Elaeodendron Schweinfurthianum (Loes.) Loes. 1897; *E. somalense* Vatke ap. Engler 1904 nom. nud.; *E. Schweinfurthianum* var. *cyclophyllum* et var. *obovatum* Chiov. 1932.

Acocanthera abyssinica Auct. non K. Schum. ap. Engl. : Fiori 1913.

Syntypi : *Hildebrandt* 1323-24 (Barawa, id est Brava), *Stuhlmann* 122 (Pangani), 139 (Bagamoyo), 312, 486, 550 (Zanzibar).

Aethiopia : S-SO. — Africa Tropica : Ke.NO-Ta.Za.

Nomina indigena : aden-medú (somali : Heima), gheb-erec, gheberek (som. : Baidoa), guva (som. : Brava), laf (som. : El-Bar).

Hartogia L. f. 1781 (D.H. 4645).

Hartogia Agrifolium Chiov. 1929.

Typus : *Stefanini & Puccioni* 643 (inter Scermarca-Hassan et Tobungab prope Obbia).

Aethiopia : C-S-SO.

Observatio. — Fide Blakelock forsan cum *Cassine Aquifolium* conveniens.

HIPPOCRATEACEAE.

Hippocratea L. 1753 (D.H. 4661).

Hippocratea africana (Willd.) Loes. 1910.

Tonsella africana Willd. 1797; *Hippocratea obtusifolia* Roxb. (1814 nom. nud.) 1820; *Salacia africana* (Willd.) DC. 1824; *Hippocratea Richardiana* Camb., Saint.-Hill. & Juss. 1829; *Calypso africana* (Willd.) G. Don 1831; *Hippocratea obtusifolia* var. a. *Richardiana* (C., S.-H. & J.) cum forma *tenuior* et forma *crassior*, var. c. *Fischeriana*, var. d. *Eminiana* et var. e. *Schweinfurthiana* Loes 1894; *H. cymosa* De Wild. & Dur. 1899; *H. c.* var. *Schweinfurthiana* (Loes.) et var. *togoënsis* Loes. 1904; *H. africana* var. *togoënsis* (Loes.) Loes. 1910; *Loeseneriella obtusifolia* (Roxb.) A. C. Smith 1941.

Typus : *Isert* (Gold Coast, sine loco speciali).

Aethiopia : W-H.GS.

Observatio. — Species maxime polymorpha hucusque insuper reperta in C-S-SuA.Gh.Ds.Bo.Ke.Ug.Ta.Rh.Mo.Tr.Con.An.N-Ni.

To.GC.Li.SL.Senl.SuF. et extra Africam in Ind.Cey.IN.Chi.NO-O-Au., quam cl. Blakelock nunc ipsum in lucem edendam et diligentis comparationis ope in taxa intraspecifica digerendam curat. Huius rei ratione habita sequentem tantum varietatem ex Aethiopia descriptam distinxi.

— var. **Schimperiana** (Hochst. & Steud. ex Rich.) Blakelock, comb. nova.

Hippocratea Schimperiana Hochst. & Steud. (1841 nom nud.) ex Rich. 1847; *H. obtusifolia* var. *Schimperiana* (H. & St. ex Rich.) Loes. 1894.

Hippocratea obtusifolia Auct. non Roxb.: Oliver 1868 p.p., Engler 1892; 1893, 1895 p.p., 1921 p.p., prob. Pax 1907, et aliorum saltem p.p. quoad Aeth.

Syntypi: *Petit* (Choa), *Schimper* 35 (M. Selleuda vel Scholoda prope Adua).

Aethiopia: E.A.S.

Nomina indigena: dra, drah, tirah (amhara et tigrinia), terrin-areg (prob. amhara: Bahar-Dar ad lacum Tana).

Hippocratea crenata (Kl.) K. Schum. & Loes. 1892.

Gymnema crenatum Kl. ap. Peters 1862; *Hippocratea Kirkii* Oliver 1868.

Syntypi: *Peters* (Tette, Rios de Sena).

Aethiopia: S-SO. (Lorian in Garre, *Ellenbeck;* fide Engler 1904). — Africa Tropica: Ke.Ta.Ny.Mo.

Hippocratea Goetzei Loes. 1901.

Hippocratea Scheffleri Loes. 1904.

Typus: *Goetze* 1209 (M. Manganyema in Kinga).

Aethiopia: GS. (Tafari-Kela in Sidamo, *Straube* 312; fide Blakelock 1957). — Africa Tropica: Ke.Ug.Ta.Ny.

Observatio. — Nunc primum in Aethiopia reperta.

Apodostigma Wilczek 1956 (D.H. 4661*).

Apodostigma pallens (Pl. ex Oliv.) Wilczek 1956.

Hippocratea pallens Pl. ex Oliver 1868; *H. Buchholzii* Loes. 1894; *H. Verdickii* De Wild. 1903; *H. Oliveriana* Hutch. & Moss 1929.

Syntypi : *Barter* (Sierra Leone, s.l.), *Mann* 855 (fl. Bagroo in SL.), *Welwitsch* 1336 (Cazengo in An.).

Aethiopia : GS. (Dabobesa in Darassa, *Kuls* 192, Wonago-Galma in N-Darassa, *Kuls* 2029; fide Blakelock 1957). — Africa Tropica : Ke.Ta.Mo.Con.An.Gab.OuC.Ni. usque ad Senl.

Observatio. — Kulsii specimina prima ex Aethiopia.

Salacia L. 1771 (D.H. 4662).

Salacia leptoclada Tul. 1857.

Salacia floribunda Tul. 1857, non Wight 1831; *S. zanzibarensis* Vatke ex Loes. 1892; *S. floribunda* Tul. forma *kumbenensis* et f. *mombassensis* Loes. 1894; *S. f.* f. *amaniensis* et f. *subintegra* Loes. 1910; *S. f.* var. *mombassensis* (Loes.) Chiov. 1932.

Typus : *Boivin* (Insula Mayotta).

Aethiopia : S-SO. (Uamo-Ido, *Senni* 313, Barbak, *Senni* 513; fide Chiov. 1932, Senni 1935). — Africa Tropica : Ke.Za.Ta.Mo. — Extra Africam Mad. Com.

Nomen indigenum : madderie (somali : Uamo-Ido).

Observatio. — Propter nomenclaturam claro Blakelock gratiam habeo.

Salacia pyriformis (Sabine) Steudel 1841.

Tonsella pyriformis Sabine, Trans. Hort. Soc. 5 : 459. 1824 (deest in Ind. Kew.); *Calypso p.* (Sabine) G. Don 1831, *Salacia elongata* Hook f. 1849; valde prob. *S. somalensis* Chiov. 1932.

Typus : *G. Don* (prope Free-Town in Sierra-Leone).

Aethiopia : S-SO. (Alessandra in insula Touata fluminis Juba, *Tozzi* 223; fide Chiovenda 1932). — Africa Tropica : S-SuA.Ke.Ug.Ta.Mo.Ny?Con.OuC.Tho.S-Ni.SL.Senl.

Nomen indigenum : mabulissanga (somali : insula Touata).

Observatio.— Huius quoque synonymiam claro Blakelock debeo.

Salacia senegalensis (Lam.) DC. 1824.

Hippocratea senegalensis Lam. 1791; *H. verticillata α senegalensis* Pers. 1805; *Tonsella senegalensis* (Lam.) Vahl 1806; *Calypso seneg.* (Lam.) Camb. 1829; *Salacia affinis* Hook. f. 1849; *S. Simtata* Loes. 1910.

Typus : communicavit *Dupuis* ex herbario *Lamarckii* (Senegal).

Aethiopia : S-SO. (Baddada in Transjuba, *Senni* 271; fide

Chiovenda 1932). — Africa Tropica : Ke?Ta.Con.An.Dah. usque ad SL. Senl.

Observatio. — Blakelock synonymiam locupletiorem fecit et areae fines quam primum exactius terminabit.

SALVADORACEAE.

Azima Lam. 1783 (D.H. 6444).

Azima tetracantha Lam. 1783.

Monetia barlerioides L'Her. 1784; *Azima angustifolia* DC. 1873.

Typus : *Sonnerat* (India orientalis).

Aethiopia : SB.S-SO. — Africa Tropica : Ke.Ug. Ta.Ny.Mo.O-W-Con.An.SW-Af. — Extra Africam Tropicam : S-Af.Mad.Com.SO-Ar.Ind.Cey.Phil.

Nomen indigenum : otka (somali : O-SB.).

Dobera Juss. 1789 (D.H. 6445).

Dobera glabra (Forsk.) Juss. ex Poiret 1811.

Tomex glabra Forsk. 1775; *Blackburnia monadelpha* Roxb. 1832; *Schizocalyx coriaceus* Hochst. 1844; *Dobera Roxburghii* Planch. 1848; *D. coriacea* (Hochst.) DC. 1873; *D. glabra* var. *typica* Fiori 1913; *D. g.* var. *euglabra* Chiov. 1929.

Dobera Macalusoi Auct. non Mattei : Fiori ap. Chiov. 1916.

Typus : *Forskal* (Surdud in Ar.).

Aethiopia : E.A?GS.SF.SB.S-H.S-SO. — Africa Tropica : SuA.Cor.Ke.N-Ta.Za. — Extra Africam Tropicam : S-Ar.Ind.

Nomina indigena : garas, garass, kharas (somali : ubique), garsa, gerssa, gursa, gurssa (tigre : Ghinda), dober (arabice).

Observatio. — Ex ligno vasa culinaria fabricantur.

— var. **Macalusoi** (Mattei) Fiori 1913.

Dobera Macalusoi Mattei 1908.

Syntypi : *Macaluso* 25, 38, 60 (Brava, Giumbo, Mogadiscio).

Aethiopia : S-SO.

Nomina indigena : garas, garass (somali : S-SO.).

Observatio. — Fructus edules.

Salvadora [GARC. ex] L. 1753 (D.H. 6446).

Salvadora persica L. 1753.

Cissus arborea FORSK. 1775; *Salvadora paniculata* ZUCC. ex STEUD. 1841 nom. nud.

Typus : *Garcin* (ad Sinum Persicum).

AETHIOPIA : E.O-A.GS.H.SF.SB.SO. — AFRICA TROPICA : SuA.Ke.Ta.Ny.Mo.Rh?SW-Af.An.N-Ni.SuF.Senl.Mauritania. — EXTRA AFRICAM TROPICAM : N-Af.Aeg.Ar.Sin. Pal.Syr.Per.Bel.NW-Ind.N-Cey.

Nomina indigena : adai, adaj, addai, adei, hadai (tigre, trigrinia, saho, somali), ade, adi, hadi (somali), aie (somali : Gelib), aras (som. : N-H.), rummei, rummi (somali : ramuli ad purgandos dentes adhibiti), dadaho (danakil), garsa (prob. amhara : N-H.), schiwellscha, scivellsciá (agau), anab-el-dil, arak, raq, ruk (arabice), mossuah, redif (arab. : E.).

— var. **cyclophylla** (CHIOV.) CUF., comb. nova.

Salvadora cyclophylla CHIOV. 1932.

Typus : *Senni* 145 (Bur-Gao in Transjuba).

AETHIOPIA : S-SO.

ICACINACEAE.

Apodytes E. MEY. ex ARN. 1841 (D.H. 4686).

Apodytes dimidiata E. MEY. ex BENTH. 1841.

Typus : *Zeyher* 673 (Krakakamma in distr. Uitenhage).

Observatio. — Species polymorpha vaste diffusa in Ke.Ta.Za. RU?O-Con?Ny.Rh.Mo.Tr.An.SO-S-Af.Mas.Mad.Com., in nostra ditione autem probabiliter sequens subspecies tantum :

— ssp. **acutifolia** (HOCHST. ex RICH.) CUF., comb. nova.

Apodytes acutifolia HOCHST. ex RICH. 1847.

Apodytes dimidiata AUCT. non E. MEY. ex BENTH. : auctorum omnium quoad specimina ex Aethiopia.

Typus : *Schimper* 1315 [vel 315 fide ENGLER 1892] (prope Adessela vel Addeslam ad M. Aber in Semien).

AETHIOPIA : E.A.GS.S.H.

Nomina indigena : dannisá, uandebiú, wandebiu (galla), don-

chiccio (sidama), chellalaka, tcelalacá (amhara : S.), tukur-inčat (amhara : prope lacum Ciamó), dongâ (Bahar-Dar ad lacum Tana).

Observatio. — Subspeciem institui quia limitationem geographicam exhibet.

Trematosperma URBAN 1883 (D.H. 4708).

Trematosperma cordatum URBAN 1883.

Typus : *Hildebrandt* s. nr. (cultus in Horto Berolinensi, e Somaliland).

AETHIOPIA : SB.

Nomina indigena : adalis-ad (somali : Duwi), mowo (som. : O-SB.).

Pyrenacantha WIGHT ap. HOOK. 1831, nom. cons. (D.H. 4709).

Pyrenacantha malvifolia ENGLER (1893 non vidi, prob. nom. nud.) 1895.

Syntypi (fide ENGLER 1895): *Hildebrandt* 2355 (Ndara in Teita), *Volkens* 2366 (inter Gonja et Tarawanda, Kiuhiro sept. versus, lacus Dschalla).

AETHIOPIA : GS. (Hudet, a Yavello orient. versus, *Bally* 9269; fide BALLY in litt. 27.2.57). — AFRICA TROPICA : Ke.Ta.

Observatio. — Insignis planta succulens adhuc ignota ex Aethiopia.

Pyrenacantha Ruspolii ENGLER 1898.

Typus : *Ruspoli & Riva* 910 (Ueb-Ruspoli).

AETHIOPIA : S-H.W-S-SO.

Nomen indigenum : ombé (somali : inter Dorianle et Oneiatta).

Pyrenacantha vitifolia ENGLER 1895.

Typus : *Stuhlmann* 6348 (Kidenge in Usaramo).

AETHIOPIA : S-SO. (Brava, *Mangano;* fide CHIOV. 1916. — Gobuin, *Gorini* 345-346; fide CHIOV. 1932). — AFRICA TROPICA : Ke.Ta.

(Sequitur.)

TABLE DES MATIÈRES | INHOUDSTAFEL

E. PETIT. — Les *Naucleeae (Rubiaceae)* du Congo Belge et du Ruanda-Urundi. — 2. *Mitragyna* et *Nauclea*... 1

R. W. J. KEAY. — *Randia* and *Gardenia* in West Africa (pl. I-V) 15

L. HAUMAN. — Deux « *Dichapetalum* » nouveaux d'Afrique Centrale 73

P. VAN DER VEKEN. — Une remarquable espèce nouvelle de Brachiaria *(Gramineae)* (pl. VI)... 77

P. VAN DER VEKEN. — Graminées nouvelles ou peu connues de l'Afrique Centrale II 83

SUPPLÉMENT | BIJVOEGSEL

G. CUFODONTIS. — Enumeratio Plantarum Aethiopiae Spermatophyta *(Sequentia)* 441-488

BRUXELLES
GOEMAERE, IMPRIMEUR DU ROI, ÉDITEUR
21, rue de la Limite

BRUSSEL
GOEMAERE, DRUKKER DES KONINGS, UITGEVER
21, Grensstraat